Release Date: April 2010 **DOE/EIA**
Next Release Date: April 2011

Alternatives to Traditional Transportation Fuels 2008

April 2010

U.S. Energy Information Administration
Office of Coal, Nuclear, Electric and Alternate Fuels
U. S. Department of Energy
Washington, DC 20585

This report is available on the Web at:
http://www.eia.doe.gov/fuelrenewable.html

Contacts

This report was prepared by the staff of the Survey Operations Team, Coal, Nuclear, and Renewables Division, Office of Coal, Nuclear, Electric and Alternate Fuels. Questions about the preparation and content of this report may be directed to Michele Simmons, Survey Operations Team Leader, at e-mail michele.simmons@eia.doe.gov, (202) 586-9787 or Anthony Radich at e-mail Anthony.radich@eia.doe.gov, (202) 586-0504 or Cynthia Amezcua at e-mail cynthia.amezcua@eia.doe.gov, (202) 586-1568.

Preface

The U.S. Energy Information Administration (EIA) collects data on the following items: 1) the number of alternative fueled vehicles (AFVs) supplied each year; i.e., new AFVs and conventionally fueled vehicles converted to operate on an alternate fuel; 2) for a limited set of fleet user groups, the number of AFVs in use and the amount of alternate transportation fuel consumed. The user groups surveyed are: Federal and State governments, alternate fuel providers, and transit companies.

EIA combines these two sets of data and other external information to develop an estimate of AFVs for the remaining users, municipal governments and private fleets. The result is a set of AFV supply and use data that represents all AFVs in the United States.

Three sets of AFV data tables are available: 1) AFVs Supplied; 2) AFVs in Use; and 3) Consumption of Alternative Transportation Fuels (ATFs).

Historical data on alternative fueled vehicles in use and alternative transportation fuel consumption may be found on the EIA website at http://www.eia.doe.gov/cneaf/alternate/page/atftables/afv_hist_data.html

Definitions for terms used in this report can be found in EIA's Energy Glossary: http://www.eia.doe.gov/glossary/index.html.

Tables

Vehicles Supplied

Vehicles in Use

Fuel Consumption

Appendix A

Illustrations

Table S1. Summary of Onroad Alternative Fuel and Hybrid Vehicles Made Available, by Fuel Type, Configuration, and Weight Class, 2008

Fuel Type/Configuration	Light Duty	Medium Duty	Heavy Duty	Grand Total
	Total	Total	Total	
Compressed Natural Gas (CNG)	2,193	139	2,108	**4,440**
Dedicated	2,185	108	2,108	**4,401**
Nondedicated	8	31	0	**39**
Electric (EVC)[a]	2,740	4	58	**2,802**
Ethanol, 85 Percent (E85)[b]	1,162,214	13,131	0	**1,175,345**
Hydrogen (HYD)[c]	32	0	31	**63**
Liquefied Natural Gas (LNG)	20	0	364	**384**
Dedicated	20	0	364	**384**
Nondedicated	0	0	0	**0**
Liquefied Petroleum Gas (LPG)	409	58	228	**695**
Dedicated	150	0	226	**376**
Nondedicated	259	58	2	**319**
Diesel-Electric Hybrid (DSL)[d]	0	2	1,001	**1,003**
Gasoline-Electric Hybrid (GAS)[e]	324,779	0	22	**324,801**
Total Vehicles	**1,492,387**	**13,334**	**3,812**	**1,509,533**
Dedicated and Nonhybrid	**5,127**	**112**	**2,787**	**8,026**
Nondedicated and Hybrid	**1,487,260**	**13,222**	**1,025**	**1,501,507**

[a]Electric vehicles are battery powered and are considered dedicated.

[b]Ethanol vehicles are flexible-fueled and are considered nondedicated; the remaining portion of 85-percent ethanol is gasoline.

[c]Hydrogen fuel cells are considered dedicated hydrogen because hydrogen is the input fuel.

[d]Diesel-electric hybrids are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has Energy Policy Act of 1992 (EPACT92) implementation authority, ruled that diesel-electric hybrids are not "alternative fuel vehicles."

[e]Gasoline-electric hybrids are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that gasoline-electric hybrids are not "alternative fuel vehicles."

Notes:

Dedicated vehicles are designed to operate exclusively on one alternative fuel.

Nondedicated vehicles and hybrid vehicles are configured to operate on more than one fuel.

Light Duty includes vehicles less than or equal to 8,500 GVWR, including neighborhood electric vehicles and motorcycles.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S2. Number of Onroad Light-Duty Alternative Fuel and Hybrid Vehicles Made Available, by Fuel Type, Configuration, and Vehicle Type, 2008

Fuel Type/Configuration	Automobiles	Minivans	Vans	Pickups	SUVs	Trucks	Other	Total
Compressed Natural Gas (CNG)	2,166	4	3	1	0	19	0	**2,193**
Dedicated	2,166	0	0	0	0	19	0	**2,185**
Nondedicated	0	4	3	1	0	0	0	**8**
Electric (EVC)[a]	0	0	0	1	0	0	2,739	**2,740**
Ethanol, 85 Percent (E85)[b]	400,499	152,776	8,304	369,001	231,634	0	0	**1,162,214**
Hydrogen (HYD)[c]	23	0	0	0	9	0	0	**32**
Liquefied Natural Gas (LNG)	0	0	0	0	0	0	20	**20**
Dedicated	0	0	0	0	0	0	20	**20**
Nondedicated	0	0	0	0	0	0	0	**0**
Liquefied Petroleum Gas (LPG)	185	0	1	192	28	3	0	**409**
Dedicated	150	0	0	0	0	0	0	**150**
Nondedicated	35	0	1	192	28	3	0	**259**
Diesel-Electric Hybrid (DSL)[d]	0	0	0	0	0	0	0	**0**
Gasoline-Electric Hybrid (GAS)[e]	251,581	0	0	0	73,196	2	0	**324,779**
Total Vehicles	**654,454**	**152,780**	**8,308**	**369,195**	**304,867**	**24**	**2,759**	**1,492,387**
Dedicated and Nonhybrid	**2,339**	**0**	**0**	**1**	**9**	**19**	**2,759**	**5,127**
Nondedicated and Hybrid	**652,115**	**152,780**	**8,308**	**369,194**	**304,858**	**5**	**0**	**1,487,260**

[a]Electric vehicles are battery powered and are considered dedicated.
[b]Ethanol vehicles are flexible-fueled and are considered nondedicated; the remaining portion of 85-percent ethanol is gasoline.
[c]Hydrogen fuel cells are considered dedicated hydrogen because hydrogen is the input fuel.
[d]Diesel-electric hybrids are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has Energy Policy Act of 1992 (EPACT92) implementation authority, ruled that diesel-electric hybrids are not "alternative fuel vehicles."
[e]Gasoline-electric hybrids are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that gasoline-electric hybrids are not "alternative fuel vehicles."
Notes:
Dedicated vehicles are designed to operate exclusively on one alternative fuel.
Nondedicated vehicles and hybrid vehicles are configured to operate on more than one fuel.
Other includes neighborhood electric vehicles and motorcycles.
Light Duty includes vehicles less than or equal to 8,500 GVWR.
Source: U.S. Energy Information Administration, Form EIA-886 "Annual Survey of Alternative Fueled Vehicles."

Table S3. Number of Onroad Medium- and Heavy-Duty Alternative Fuel and Hybrid Vehicles Made Available, by Fuel Type, Configuration, and Vehicle Type, 2008

Fuel Type/Configuration	Medium Duty				Heavy Duty			Total
	Vans	Pickups	Trucks	Total	Trucks	Buses	Total	
Compressed Natural Gas (CNG)	68	70	1	139	746	1,362	2,108	**2,247**
Dedicated	67	41	0	108	746	1,362	2,108	**2,216**
Nondedicated	1	29	1	31	0	0	0	**31**
Electric (EVC)[a]	0	0	4	4	0	58	58	**62**
Ethanol, 85 Percent (E85)[b]	13,131	0	0	13,131	0	0	0	**13,131**
Hydrogen (HYD)[c]	0	0	0	0	0	31	31	**31**
Liquefied Natural Gas (LNG)	0	0	0	0	364	0	364	**364**
Dedicated	0	0	0	0	364	0	364	**364**
Nondedicated	0	0	0	0	0	0	0	**0**
Liquefied Petroleum Gas (LPG)	3	21	34	58	23	205	228	**286**
Dedicated	0	0	0	0	21	205	226	**226**
Nondedicated	3	21	34	58	2	0	2	**60**
Diesel-Electric Hybrid (DSL)[d]	0	0	2	2	114	887	1,001	**1,003**
Gasoline-Electric Hybrid (GAS)[e]	0	0	0	0	0	22	22	**22**
Total Vehicles	**13,202**	**91**	**41**	**13,334**	**1,247**	**2,565**	**3,812**	**17,146**
Dedicated and Nonhybrid	**67**	**41**	**4**	**112**	**1,131**	**1,656**	**2,787**	**2,899**
Nondedicated and Hybrid	**13,135**	**50**	**37**	**13,222**	**116**	**909**	**1,025**	**14,247**

[a]Electric vehicles are battery powered and are considered dedicated.

[b]Ethanol vehicles are flexible-fueled and are considered nondedicated; the remaining portion of 85-percent ethanol is gasoline.

[c]Hydrogen fuel cells are considered dedicated hydrogen because hydrogen is the input fuel.

[d]Diesel-electric hybrids are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that diesel-electric hybrids are not "alternative fuel vehicles."

[e]Gasoline-electric hybrids are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT92 implementation authority, ruled that gasoline-electric hybrids are not "alternative fuel vehicles."

Notes:

Dedicated vehicles are designed to operate exclusively on one alternative fuel.

Nondedicated vehicles and hybrid vehicles are configured to operate on more than one fuel.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Source: U. S. Energy Information Administration, Form EIA-886, "Annual Survey of Alternative Fueled Vehicles."

Table S4. Number of Onroad Alternative Fuel and Hybrid Vehicles Made Available, by Detailed Vehicle Type, 2008

Vehicle Type	Total
Automobiles	**654,454**
Auto-Subcompact[a]	1
Auto-Compact[a]	230,341
Auto-Midsize[a]	95,659
Auto-Fullsize	328,453
Vans	**174,290**
Minivan	152,780
Light Duty Van	8,308
Medium Duty Van	13,202
Pickup Trucks	**369,286**
Light Duty Pickup	369,195
Medium Duty Pickup	91
Other Trucks	**306,179**
Light Duty SUV[a]	304,867
Light Duty Truck	24
Medium Duty Truck	41
Heavy Duty Truck	1,247
Buses	**2,565**
Bus-School	362
Bus-Transit (<27' 6")	317
Bus-Transit (>27' 6")[b]	1,849
Bus-Trolley Bus	37
Bus-Intercity	0
Other Onroad Vehicles	**2,759**
Low Speed Vehicle (NEV)	2,378
Motorcycle	381
Total Vehicles	**1,509,533**

[a]Includes gasoline-electric hybrid vehicles which are outside the Energy Policy Act of 1992 (EPACT92) definition of alternative fuel vehicle.

See Tables S2 and S3 for a breakdown of hybrids by fuel type and vehicle category.

[b]Includes diesel-electric hybrid vehicles which are outside EPACT92's definition of alternative fuel vehicle.

See Tables S2 and S3 for a breakdown of hybrids by fuel type and vehicle category.

Notes:

Light Duty includes vehicles less than or equal to 8,500 GVWR.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Source: U. S. Energy Information Administration, Form EIA-886, "Annual Survey of Alternative Fueled Vehicles."

Table S5. Number of Onroad Alternative Fuel and Hybrid Buses Made Available, by Vehicle Type and Fuel Type, 2004 - 2008

Vehicle Type / Fuel Type	2004	2005	2006	2007	2008
Transit Buses[a]	**1,487**	**1,465**	**1,524**	**1,564**	**2,203**
Compressed Natural Gas (CNG)	955	952	791	646	1,168
Electric (EVC)[b]	0	1	188	188	58
Hydrogen (HYD)	4	13	1	24	31
Liquefied Natural Gas (LNG)	39	43	8	5	0
Liquefied Petroleum Gas (LPG)	71	68	99	15	37
Diesel-Electric Hybrid (DSL)[b]	418	311	437	686	887
Gasoline-Electric Hybrid (GAS)	0	77	0	0	22
Intercity Buses	**0**	**0**	**0**	**0**	**0**
Compressed Natural Gas (CNG)	0	0	0	0	0
Electric (EVC)	0	0	0	0	0
Liquefied Natural Gas (LNG)	0	0	0	0	0
Liquefied Petroleum Gas (LPG)	0	0	0	0	0
School Buses	**329**	**288**	**199**	**326**	**362**
Compressed Natural Gas (CNG)	253	250	161	324	194
Electric (EVC)	0	0	0	0	0
Liquefied Natural Gas (LNG)	0	0	0	0	0
Liquefied Petroleum Gas (LPG)	76	38	38	2	168
Gasoline-Electric Hybrid (GAS)	0	0	0	0	0
Total Buses	**1,816**	**1,753**	**1,723**	**1,890**	**2,565**

[a]Includes shuttle buses and trolley replicas.
[b]Beginning in 2004, diesel-electric hybrids are not grouped under the Electric fuel category
because the input fuel is diesel rather than an alternative transportation fuel.
DOE, which has EPACT92 implementation authority, ruled that diesel-electric hybrids are not "alternative fuel vehicles."
Source: U. S. Energy Information Administration, Form EIA-886, "Annual Survey of Alternative Fueled Vehicles."

Table S6. Number of Onroad Alternative Fuel and Hybrid Vehicles Made Available, by Supplier Type and Vehicle Type, 2004 - 2008

Supplier Type/Vehicle Type	2004	2005	2006	2007	2008
Original Equipment Manufacturer (OEM)	**774,290**	**889,267**	**1,233,924**	**1,454,100**	**1,508,535**
Automobiles[a]	241,444	294,113	513,907	647,806	654,201
Vans & Minivans	6,896	7,995	12,441	43,877	174,211
Pickup Trucks	60,323	277,978	382,135	422,174	369,000
Light Duty Trucks & SUVs[a]	461,604	305,346	321,041	335,109	304,841
Medium Duty Trucks	163	12	0	13	2
Heavy Duty Trucks	258	142	247	387	1,243
Buses[b]	1,650	1,639	1,629	1,773	2,278
Other	1,952	2,042	2,524	2,961	2,759
Converter	**1,348**	**1,014**	**731**	**583**	**998**
Automobiles	686	552	399	297	253
Vans & Minivans	50	60	29	10	79
Pickup Trucks	105	118	92	74	286
Light Duty Trucks & SUVs	199	108	63	41	50
Medium Duty Trucks	115	58	35	25	39
Heavy Duty Trucks	27	4	10	10	4
Buses	166	114	94	117	287
Other	0	0	9	9	0
Total Made Available (OEM plus Converter)	**775,638**	**890,281**	**1,234,655**	**1,454,683**	**1,509,533**
Automobiles[a]	242,130	294,665	514,306	648,103	654,454
Vans & Minivans	6,946	8,055	12,470	43,887	174,290
Pickup Trucks	60,428	278,096	382,227	422,248	369,286
Light Duty Trucks & SUVs[a]	461,803	305,454	321,104	335,150	304,891
Medium Duty Trucks	278	70	35	38	41
Heavy Duty Trucks	285	146	257	397	1,247
Buses[b]	1,816	1,753	1,723	1,890	2,565
Other	1,952	2,042	2,533	2,970	2,759

[a]Includes gasoline-electric hybrid vehicles which are outside the Energy Policy Act of 1992 (EPACT92) definition of an alternative fueled vehicle.

[b]Includes diesel-electric hybrid vehicles which are outside EPACT92's definition of an alternative fueled vehicle.

Notes:

Beginning in 2001, EIA publishes light duty trucks and SUVs separately from pickup trucks.

Light Duty includes vehicles less than or equal to 8,500 GVWR.

Medium Duty includes vehicles 8,501 to 26,000 GVWR.

Heavy Duty includes vehicles 26,001 and over GVWR.

Other includes neighborhood electric vehicles and motorcycles.

Source: U. S. Energy Information Administration, Form EIA-886, "Annual Survey of Alternative Fueled Vehicles."

Table S7. Projected Number of Onroad Alternative Fuel and Hybrid Vehicles to be Made Available, by Fuel Type and Vehicle Type, 2009

Fuel Type	Automobiles	Vans & Minivans	Pickup Trucks	Light Duty Trucks & SUVs	Medium Duty Trucks	Heavy Duty Trucks	Buses	Other Onroad	Total
Compressed Natural Gas (CNG)	w	w	w	w	w	w	1,086	w	**2,561**
Electric (EVC)	0	0	0	0	w	0	w	w	**4,774**
Ethanol, 85 Percent (E85)[a]	269,137	w	373,152	w	0	0	0	0	**969,524**
Hydrogen (HYD)	w	0	0	w	w	0	w	0	**113**
Liquefied Natural Gas (LNG)	0	0	0	0	0	w	0	0	**676**
Liquefied Petroleum Gas (LPG)	w	w	237	w	146	w	469	w	**2,363**
Diesel-Electric Hybrid (DSL)[b]	0	0	0	0	w	w	1,651	0	**1,952**
Gasoline-Electric Hybrid (GAS)[c]	275,558	0	0	62,152	0	0	w	0	**337,768**
Total	**545,830**	**166,502**	**373,471**	**223,726**	**158**	**1,933**	**3,340**	**4,771**	**1,319,731**

[a]The remaining portion of 85-percent ethanol (E85) is gasoline.
[b]Diesel-electric hybrid vehicles are not grouped under the Electric fuel category because the input fuel is diesel rather than an alternative transportation fuel. DOE, which has Energy Policy Act of 1992 (EPACT92) implementation authority, ruled that diesel-electric hybrids are not "alternative fueled vehicles."
[c]Gasoline-electric hybrid vehicles are not grouped under the Electric fuel category because the input fuel is gasoline rather than an alternative transportation fuel. DOE, which has EPACT 1992 implementation authority, ruled that gasoline-electric hybrids are not "alternative fueled vehicles."
Notes:
w = withheld to avoid disclosure of individual company data.
Light Duty includes vehicles less than or equal to 8,500 GVWR.
Medium Duty includes vehicles 8,501 to 26,000 GVWR.
Heavy Duty includes vehicles 26,001 and over GVWR.
Source: U. S. Energy Information Administration, Form EIA-886, "Annual Survey of Alternative Fueled Vehicles."

Table V1. Estimated Number of Alternative Fueled Vehicles in Use in the United States, by Fuel Type, 2004 - 2008

Fuel Type	2004	2005	2006	2007	2008
Compressed Natural Gas (CNG)	118,532	117,699	116,131	114,391	113,973
Electric [a]	49,536	51,398	53,526	55,730	56,901
Ethanol, 85 percent (E85) [b, c]	211,800	246,363	297,099	364,384	450,327
Hydrogen	43	119	159	223	313
Liquefied Natural Gas (LNG)	2,717	2,748	2,798	2,781	3,101
Liquefied Petroleum Gas (LPG)	182,864	173,795	164,846	158,254	151,049
Other Fuels[d]	0	3	3	3	3
Total	**565,492**	**592,125**	**634,562**	**695,766**	**775,667**

[a]Excludes gasoline-electric and diesel-electric hybrids because the input fuel is gasoline or diesel rather than an alternative transportation fuel. The Department of Energy, which has Energy Policy Act implementation authority, ruled that gasoline-electric and diesel-electric hybrids are not "alternative fuel vehicles."

[b]The remaining portion of 85-percent ethanol is gasoline.

[c]In 1997, some vehicle manufacturers began including E85 fueling capability in certain model lines of vehicles. For 2008, the EIA estimates that the number of E85 vehicles that are capable of operating on E85, gasoline, or both, is about 7.1 million. Many of these alternative fueled vehicles (AFVs) are sold and used as traditional gasoline-powered vehicles. In this table, AFVs in use include only those E85 vehicles believed to be used as AFVs. These are primarily fleet-operated vehicles.

[d]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. The estimated number of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) vehicles in use is zero for all years included in this table. Therefore, those fuels are not shown.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V2. Estimated Number of Alternative Fueled Vehicles in Use, by State, 2004 - 2008

State	2004	2005	2006	2007	2008
Alabama	9,672	9,560	8,935	9,884	11,109
Alaska	1,356	2,010	1,993	2,289	2,379
Arizona	16,969	18,904	26,862	32,978	36,943
Arkansas	3,235	2,932	2,817	3,588	3,697
California	81,652	93,930	105,594	117,199	117,000
Colorado	10,669	10,840	13,773	15,108	17,292
Connecticut	5,667	5,800	5,390	5,418	5,288
Delaware	1,905	2,131	2,115	2,098	2,397
District of Columbia	4,856	4,502	6,446	6,020	6,415
Florida	23,095	25,000	29,280	29,974	32,497
Georgia	19,331	17,072	17,677	21,147	24,426
Hawaii	3,460	2,747	3,838	5,907	6,447
Idaho	2,363	3,071	3,506	4,029	4,330
Illinois	15,304	17,054	17,744	19,550	22,285
Indiana	7,483	7,246	7,940	8,884	8,813
Iowa	4,697	4,710	4,885	6,140	5,976
Kansas	3,906	3,988	3,964	4,082	4,955
Kentucky	5,787	5,993	6,136	7,389	8,365
Louisiana	3,934	4,436	4,946	6,544	9,256
Maine	876	924	1,273	1,085	1,302
Maryland	9,315	10,495	11,624	12,972	16,278
Massachusetts	10,104	9,114	8,342	8,320	7,765
Michigan	14,437	14,879	14,437	16,410	19,731
Minnesota	9,984	9,195	9,593	10,161	11,310
Mississippi	4,639	5,067	5,162	6,153	8,365
Missouri	10,459	10,096	10,826	10,981	14,867
Montana	1,968	2,000	2,023	3,869	3,580
Nebraska	3,048	2,617	2,916	3,096	3,302
Nevada	9,335	10,854	10,881	11,268	11,029

New Hampshire	984	837	916	1,182	1,598
New Jersey	14,255	14,316	14,393	15,076	18,742
New Mexico	9,023	8,914	10,356	11,573	13,739
New York	30,692	30,320	28,064	27,597	31,325
North Carolina	18,105	19,816	18,969	29,335	33,133
North Dakota	1,530	1,521	1,759	3,345	3,318
Ohio	11,764	11,181	12,022	13,498	17,518
Oklahoma	13,998	12,401	12,406	8,295	8,131
Oregon	5,436	6,720	8,014	9,741	10,722
Pennsylvania	10,835	11,894	11,605	12,089	13,307
Rhode Island	2,707	2,471	2,787	2,789	2,782
South Carolina	9,914	9,241	9,642	12,877	16,553
South Dakota	1,388	1,039	1,186	3,650	4,842
Tennessee	6,887	7,803	9,503	9,554	11,870
Texas	88,026	91,590	92,968	88,135	100,393
Utah	5,777	6,014	6,549	7,030	8,022
Vermont	834	905	960	991	1,416
Virginia	11,257	11,266	14,606	18,308	21,505
Washington	10,623	12,217	14,815	14,864	13,850
West Virginia	1,607	1,567	1,544	1,803	2,256
Wisconsin	8,527	9,035	8,178	8,728	10,848
Wyoming	1,311	1,532	2,045	2,315	1,834
State Unknown	506	2,358	357	448	564
Total	**565,492**	**592,125**	**634,562**	**695,766**	**775,667**

Notes: Excludes gasoline-electric and diesel-electric hybrids. Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles. Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V3. Estimated Number of Alternative Fueled Vehicles in Use, by State and Fuel Type, 2008

State	Compressed Natural Gas (CNG)	Electric[a]	Ethanol, 85 Percent (E85)[b]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[c]	Total
Alabama	370	369	8,889	0	0	1,481	0	11,109
Alaska	489	5	1,697	0	0	188	0	2,379
Arizona	10,072	3,821	16,357	0	714	5,979	0	36,943
Arkansas	187	85	2,057	0	0	1,368	0	3,697
California	35,980	30,242	40,131	0	1,765	8,882	0	117,000
Colorado	972	296	11,764	0	0	4,260	0	17,292
Connecticut	1,379	51	3,562	0	0	296	0	5,288
Delaware	63	0	2,310	0	0	24	0	2,397
District of Columbia	1,070	0	5,255	0	0	90	0	6,415
Florida	2,683	431	24,455	0	0	4,928	0	32,497
Georgia	2,370	1,018	12,149	0	0	8,889	0	24,426
Hawaii	8	273	4,918	0	0	1,248	0	6,447
Idaho	276	0	3,323	0	87	644	0	4,330
Illinois	2,459	176	17,605	0	0	2,045	0	22,285
Indiana	2,007	0	4,157	0	0	2,649	0	8,813
Iowa	0	16	5,170	0	0	790	0	5,976
Kansas	246	0	3,899	0	0	810	0	4,955
Kentucky	150	0	7,130	0	0	1,085	0	8,365
Louisiana	378	385	6,464	0	0	2,029	0	9,256
Maine	21	0	874	0	0	407	0	1,302
Maryland	2,716	775	12,472	0	0	315	0	16,278
Massachusetts	1,922	2,477	3,008	0	0	358	0	7,765
Michigan	518	1,919	14,395	0	0	2,899	0	19,731
Minnesota	95	0	8,174	0	20	3,021	0	11,310
Mississippi	152	0	4,136	0	0	4,077	0	8,365
Missouri	135	0	11,019	0	0	3,713	0	14,867
Montana	18	51	3,127	0	0	384	0	3,580
Nebraska	378	0	2,639	0	0	285	0	3,302
Nevada	3,020	21	5,021	0	0	2,967	0	11,029

New Hampshire	100	118	1,147	0	0	233	0	1,598
New Jersey	3,738	467	11,522	0	0	3,015	0	18,742
New Mexico	945	0	11,179	0	0	1,615	0	13,739
New York	10,017	8,094	11,437	0	0	1,777	0	31,325
North Carolina	669	747	26,763	0	0	4,954	0	33,133
North Dakota	10	0	3,207	0	0	101	0	3,318
Ohio	1,060	429	13,326	0	0	2,703	0	17,518
Oklahoma	2,719	2	4,299	0	0	1,111	0	8,131
Oregon	1,625	1,889	6,173	0	20	1,015	0	10,722
Pennsylvania	2,374	0	9,817	0	0	1,116	0	13,307
Rhode Island	1,006	278	1,454	0	0	44	0	2,782
South Carolina	246	457	14,654	0	0	1,196	0	16,553
South Dakota	2	25	4,711	0	0	104	0	4,842
Tennessee	302	20	10,967	0	0	581	0	11,870
Texas	11,032	1,096	28,405	0	422	59,438	0	100,393
Utah	2,850	0	4,854	0	0	318	0	8,022
Vermont	22	562	641	0	0	191	0	1,416
Virginia	1,956	129	17,634	0	0	1,786	0	21,505
Washington	2,091	51	10,713	0	0	995	0	13,850
West Virginia	30	0	1,967	0	0	259	0	2,256
Wisconsin	675	16	8,095	0	0	2,062	0	10,848
Wyoming	337	65	1,204	0	0	228	0	1,834
State Unknown	33	45	1	313	73	96	3	564
Total	**113,973**	**56,901**	**450,327**	**313**	**3,101**	**151,049**	**3**	**775,667**

[a] Excludes gasoline-electric and diesel-electric hybrids.
[b] Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[c]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. The estimated number of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) vehicles in use is zero for the year included in this table. Therefore, those fuels are not shown. Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V4. Estimated Number of Alternative Fueled Vehicles in Use, by Fuel Type and Weight Class, 2004 - 2008

Fuel Type	2004				2005				2006				2007				2008			
	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total
Compressed Natural Gas (CNG)	78,667	24,105	15,760	**118,532**	77,100	23,692	16,907	**117,699**	75,169	23,143	17,819	**116,131**	73,039	22,387	18,965	**114,391**	71,410	21,861	20,702	113,973
Electric[a]	48,489	85	962	**49,536**	50,506	84	808	**51,398**	52,605	85	836	**53,526**	54,825	86	819	**55,730**	55,982	87	832	56,901
Ethanol, 85 percent (E85)[b, c]	211,254	546	0	**211,800**	245,228	1,135	0	**246,363**	290,156	6,942	1	**297,099**	348,418	15,965	1	**364,384**	433,849	16,477	1	450,327
Hydrogen	36	1	6	**43**	99	1	19	**119**	138	1	20	**159**	177	1	45	**223**	235	1	77	313
Liquefied Natural Gas (LNG)	190	179	2,348	**2,717**	186	174	2,388	**2,748**	182	166	2,450	**2,798**	175	158	2,448	**2,781**	188	151	2,762	3,101
Liquefied Petroleum Gas (LPG)	107,865	35,391	39,608	**182,864**	100,981	33,849	38,965	**173,795**	94,307	32,243	38,296	**164,846**	89,677	31,098	37,479	**158,254**	84,473	29,729	36,847	151,049
Other Fuels[d]	0	0	0	**0**	3	0	0	**3**	3	0	0	**3**	3	0	0	**3**	3	0	0	3
Total	**446,501**	**60,307**	**58,684**	**565,492**	**474,103**	**58,935**	**59,087**	**592,125**	**512,560**	**62,580**	**59,422**	**634,562**	**566,314**	**69,695**	**59,757**	**695,766**	**646,140**	**68,306**	**61,221**	**775,667**

[a]Excludes gasoline-electric and diesel-electric hybrids.
[b]The remaining portion of 85-percent ethanol is gasoline.

[c]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[d]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR). Medium duty includes vehicles 8,501 to 26,000 pounds GVWR. Heavy duty includes vehicles 26,001 pounds and over GVWR. The estimated number of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) vehicles in use is zero for all years included in this table. Therefore, those fuels are not shown.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V5. Estimated Number of Alternative Fueled Vehicles in Use, by Weight Class, Vehicle Type and Fuel Type, 2008

Weight Class/Vehicle Type	Compressed Natural Gas (CNG)	Electric[a]	Ethanol, 85 Percent (E85)[b]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[c]	Total
Light Duty Vehicles	71,410	55,982	433,849	235	188	84,473	3	646,140
Automobiles								
Subcompact	3,854	1,733	203	2	0	46	0	5,838
Compact	17,657	1,996	37,839	142	18	1,379	0	59,031
Midsize	3,253	324	61,526	0	0	4,755	0	69,858
Fullsize	6,059	0	48,979	23	0	4,776	0	59,837
Vans								
Minivans	2,008	238	70,938	0	2	6,213	0	79,399
Light-Duty Vans	11,407	64	16,535	0	7	19,172	0	47,185
Pickups	22,515	3,069	102,718	2	117	43,745	0	172,166
SUVs	549	986	95,051	66	4	1,080	3	97,739
Trucks	4,088	774	59	0	2	3,236	0	8,159
Low Speed Vehicles	11	44,842	0	0	38	43	0	44,934
Motorcycles	8	1956	1	0	0	28	0	1,993
Other	1	0	0	0	0	0	0	1
Medium Duty Vehicles	21,861	87	16,477	1	151	29,729	0	68,306
Vans	6,948	2	1,343	1	8	9,085	0	17,387
Pickups	9,004	0	14,067	0	0	8,829	0	31,900
Trucks	5,909	85	1,067	0	143	11,815	0	19,019
Heavy Duty Vehicles	20,702	832	1	77	2,762	36,847	0	61,221
Trucks	3,720	35	0	0	1,231	31,467	0	36,453
Buses	16,982	797	1	77	1,531	5,380	0	24,768
Total	**113,973**	**56,901**	**450,327**	**313**	**3,101**	**151,049**	**3**	**775,667**

[a]Excludes gasoline-electric and diesel-electric hybrids.

[b]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[c]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR). Medium duty includes vehicles 8,501 to 26,000 pounds GVWR. Heavy duty includes vehicles 26,001 pounds and over GVWR.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V6. Estimated Number of Alternative Fueled Vehicles in Use, by Vehicle Category, Configuration, and Fuel Type, 2008

Vehicle Category/ Configuration	Compressed Natural Gas (CNG)	Electric[a]	Ethanol, 85 Percent (E85)[b]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[c]	Total
Automobiles	30,823	4,053	148,547	167	18	10,956	0	194,564
Dedicated	12,857	4,051	0	25	0	3,739	0	20,672
Non-dedicated	17,966	2	148,547	142	18	7,217	0	173,892
Vans[d]	20,363	304	88,816	1	17	34,470	0	143,971
Dedicated	10,647	304	0	1	8	8,244	0	19,204
Non-dedicated	9,716	0	88,816	0	9	26,226	0	124,767
Pickup Trucks[e]	31,519	3,069	116,785	2	117	52,574	0	204,066
Dedicated	5,950	3,069	0	2	4	6,520	0	15,545
Non-dedicated	25,569	0	116,785	0	113	46,054	0	188,521
Other Trucks[f]	14,266	1,880	96,177	66	1,380	47,598	3	161,370
Dedicated	4,210	1,878	0	4	1,033	37,260	0	44,385
Non-dedicated	10,056	2	96,177	62	347	10,338	3	116,985
Buses	16,982	797	1	77	1,531	5,380	0	24,768
Dedicated	15,653	791	0	66	1,494	3,932	0	21,936
Non-dedicated	1,329	6	1	11	37	1,448	0	2,832
Other Vehicles[g]	20	46,798	1	0	38	71	0	46,928
Dedicated	11	46,798	0	0	38	45	0	46,892
Non-dedicated	9	0	1	0	0	26	0	36
Total	**113,973**	**56,901**	**450,327**	**313**	**3,101**	**151,049**	**3**	**775,667**
Dedicated	**49,328**	**56,891**	**0**	**98**	**2,577**	**59,740**	**0**	**168,634**
Non-dedicated	**64,645**	**10**	**450,327**	**215**	**524**	**91,309**	**3**	**607,033**

[a]Excludes gasoline-electric and diesel-electric hybrids.

[b]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[c]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

[d]Includes minivans, light duty vans, and medium duty vans.

[e]Includes light duty and medium duty pickup trucks.

[f]Includes SUVs, heavy-duty trucks, and all light- and medium-duty trucks except pickup trucks.

[g]Includes motorcycles, low speed vehicles (e.g., neighborhood electric vehicles), and other unspecified vehicles.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Dedicated vehicles are designed to operate exclusively on one alternative fuel. Non-dedicated vehicles are configured to operate on more than one fuel.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V7. Estimated Number of Alternative Fueled Vehicles in Use, by User Group, 2004 - 2008

User Group	2004	2005	2006	2007	2008
Federal Agencies	85,309	89,182	107,125	122,288	137,809
State Agencies	57,452	63,391	71,798	79,261	93,221
Electric Fuel Providers	9,833	9,034	9,003	9,679	9,370
Natural Gas Fuel Providers	8,597	7,867	7,078	6,051	5,707
Propane Fuel Providers	14,355	14,666	13,100	10,303	7,875
Transit Agencies	10,842	11,210	11,651	11,280	11,924
Other Private & Municipal Governments[a]	379,104	396,775	414,807	456,904	509,761
Total	**565,492**	**592,125**	**634,562**	**695,766**	**775,667**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Excludes gasoline-electric and diesel-electric hybrids. Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles. Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V8. Estimated Number of Alternative Fueled Vehicles in Use, by User Group and Fuel Type, 2008

User Group	Compressed Natural Gas (CNG)	Electric[a]	Ethanol, 85 Percent (E85)[b]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[c]	Total
Federal Agencies	8,199	83	129,276	2	33	216	0	137,809
State Agencies	8,505	2,318	75,455	3	0	6,940	0	93,221
Electric Fuel Providers	3,575	458	4,715	7	12	603	0	9,370
Natural Gas Fuel Providers	4,371	45	1,090	0	70	131	0	5,707
Propane Fuel Providers	4	2	8	0	6	7,855	0	7,875
Transit Agencies	9,638	128	1,034	7	590	527	0	11,924
Other Private & Municipal Governments[d]	79,681	53,867	238,749	294	2,390	134,777	3	509,761
Total	**113,973**	**56,901**	**450,327**	**313**	**3,101**	**151,049**	**3**	**775,667**

[a]Excludes gasoline-electric and diesel-electric hybrids.

[b]Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles.

[c]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

[d]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V9. Estimated Number of Compressed Natural Gas (CNG) Vehicles in Use, by State and User Group, 2008

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	72	3	0	47	0	50	198	370
Alaska	68	17	29	0	0	0	375	489
Arizona	162	606	434	242	0	215	8,413	10,072
Arkansas	36	8	0	29	0	0	114	187
California	2,376	1,721	1,698	1,098	0	4,842	24,245	35,980
Colorado	103	2	4	93	0	48	722	972
Connecticut	76	277	30	32	0	0	964	1,379
Delaware	1	1	4	2	0	0	55	63
District of Columbia	111	174	41	0	0	0	744	1,070
Florida	599	113	12	69	0	18	1,872	2,683
Georgia	157	92	40	10	0	595	1,476	2,370
Hawaii	3	0	0	0	0	0	5	8
Idaho	81	1	11	0	0	27	156	276
Illinois	186	0	170	34	0	76	1,993	2,459
Indiana	74	0	188	98	0	0	1,647	2,007
Iowa	0	0	0	0	0	0	0	0
Kansas	24	5	0	85	0	0	132	246
Kentucky	32	0	0	0	0	0	118	150
Louisiana	73	0	51	3	0	0	251	378
Maine	2	0	0	0	0	0	19	21
Maryland	515	191	0	7	0	559	1,444	2,716
Massachusetts	37	417	2	64	0	392	1,010	1,922
Michigan	21	19	34	0	0	98	346	518
Minnesota	13	0	0	18	0	4	60	95
Mississippi	64	0	0	1	0	0	87	152
Missouri	16	7	3	12	0	36	61	135
Montana	3	0	1	0	4	0	10	18
Nebraska	21	0	0	60	0	0	297	378
Nevada	147	131	0	102	0	126	2,514	3,020

New Hampshire	0	29	0	1	0	0	70	100
New Jersey	58	1,295	81	23	0	76	2,205	3,738
New Mexico	83	99	0	41	0	105	617	945
New York	458	1,954	10	591	0	1,234	5,770	10,017
North Carolina	93	10	11	42	0	0	513	669
North Dakota	1	0	0	0	0	0	9	10
Ohio	29	18	273	2	0	131	607	1,060
Oklahoma	245	14	46	608	0	0	1,806	2,719
Oregon	23	183	44	125	0	62	1,188	1,625
Pennsylvania	86	96	124	104	0	80	1,884	2,374
Rhode Island	1	261	0	3	0	20	721	1,006
South Carolina	23	71	1	11	0	0	140	246
South Dakota	1	0	0	0	0	0	1	2
Tennessee	23	0	52	18	0	0	209	302
Texas	1,508	339	10	124	0	553	8,498	11,032
Utah	41	82	0	423	0	0	2,304	2,850
Vermont	1	0	0	7	0	0	14	22
Virginia	328	214	8	37	0	25	1,344	1,956
Washington	72	0	131	45	0	266	1,577	2,091
West Virginia	12	0	0	0	0	0	18	30
Wisconsin	32	54	32	5	0	0	552	675
Wyoming	8	1	0	55	0	0	273	337
State Unknown	0	0	0	0	0	0	33	33
Total	**8,199**	**8,505**	**3,575**	**4,371**	**4**	**9,638**	**79,681**	**113,973**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V10. Estimated Number of Electric Vehicles in Use, by State and User Group, 2008

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	0	23	0	0	0	346	369
Alaska	1	0	0	0	0	0	4	5
Arizona	0	166	63	3	0	0	3,589	3,821
Arkansas	2	0	0	0	0	0	83	85
California	21	973	308	37	0	20	28,883	30,242
Colorado	1	10	1	0	0	0	284	296
Connecticut	0	0	1	0	0	0	50	51
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	1	0	9	0	2	0	419	431
Georgia	8	0	13	0	0	0	997	1,018
Hawaii	0	2	0	0	0	0	271	273
Idaho	0	0	0	0	0	0	0	0
Illinois	0	7	0	0	0	0	169	176
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	1	0	0	0	15	16
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	24	0	0	0	0	361	385
Maine	0	0	0	0	0	0	0	0
Maryland	0	47	0	0	0	0	728	775
Massachusetts	6	95	0	0	0	28	2,348	2,477
Michigan	4	93	0	0	0	0	1,822	1,919
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	1	0	0	0	0	0	50	51
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	3	0	0	18	21

New Hampshire	0	8	0	0	0	0	110	118
New Jersey	0	28	2	0	0	0	437	467
New Mexico	0	0	0	0	0	0	0	0
New York	30	393	27	2	0	0	7,642	8,094
North Carolina	0	69	0	0	0	0	678	747
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	12	3	0	0	57	357	429
Oklahoma	1	0	0	0	0	0	1	2
Oregon	0	135	1	0	0	0	1,753	1,889
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	8	0	0	0	0	270	278
South Carolina	0	24	1	0	0	0	432	457
South Dakota	5	0	0	0	0	0	20	25
Tennessee	0	0	0	0	0	15	5	20
Texas	0	208	0	0	0	0	888	1,096
Utah	0	0	0	0	0	0	0	0
Vermont	1	14	4	0	0	0	543	562
Virginia	0	0	0	0	0	8	121	129
Washington	1	0	0	0	0	0	50	51
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	1	0	0	0	15	16
Wyoming	0	2	0	0	0	0	63	65
State Unknown	0	0	0	0	0	0	45	45
Total	**83**	**2,318**	**458**	**45**	**2**	**128**	**53,867**	**56,901**

[a] Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V11. Estimated Number of Ethanol (E85) Vehicles in Use, by State and User Group, 2008

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	2,293	1,937	0	33	0	0	4,626	8,889
Alaska	645	0	0	0	0	0	1,052	1,697
Arizona	2,654	1,471	325	64	0	217	11,626	16,357
Arkansas	949	0	70	0	0	0	1,038	2,057
California	11,071	7,323	89	9	0	35	21,604	40,131
Colorado	3,668	736	96	94	0	61	7,109	11,764
Connecticut	881	1,857	1	0	0	0	823	3,562
Delaware	206	1,449	0	0	0	5	650	2,310
District of Columbia	1,961	399	19	0	0	0	2,876	5,255
Florida	7,761	2,523	276	0	0	0	13,895	24,455
Georgia	3,674	1,684	196	6	0	177	6,412	12,149
Hawaii	1,792	0	0	0	0	0	3,126	4,918
Idaho	986	556	69	0	0	0	1,712	3,323
Illinois	6,059	2,885	434	259	0	64	7,904	17,605
Indiana	1,758	344	159	0	2	0	1,894	4,157
Iowa	1,018	1,747	202	0	0	0	2,203	5,170
Kansas	1,866	141	201	0	0	0	1,691	3,899
Kentucky	2,030	960	59	11	0	20	4,050	7,130
Louisiana	1,781	2,087	96	28	0	0	2,472	6,464
Maine	377	50	0	0	0	0	447	874
Maryland	4,364	1,415	0	0	0	285	6,408	12,472
Massachusetts	1,473	333	0	26	0	52	1,124	3,008
Michigan	3,607	3,522	156	0	0	0	7,110	14,395
Minnesota	2,280	2,653	64	0	0	43	3,134	8,174
Mississippi	1,620	719	40	13	0	0	1,744	4,136
Missouri	3,770	2,957	144	76	0	0	4,072	11,019
Montana	784	175	0	12	0	0	2,156	3,127
Nebraska	572	907	56	20	0	0	1,084	2,639
Nevada	1,673	169	0	57	0	11	3,111	5,021

New Hampshire	253	159	0	1	0	0	734	1,147
New Jersey	3,262	3,060	30	0	0	0	5,170	11,522
New Mexico	2,638	1,789	38	28	0	0	6,686	11,179
New York	4,371	1,887	143	16	0	0	5,020	11,437
North Carolina	3,551	5,490	150	27	0	0	17,545	26,763
North Dakota	641	453	7	0	0	0	2,106	3,207
Ohio	3,764	3,412	108	0	0	0	6,042	13,326
Oklahoma	1,421	1,011	73	4	6	0	1,784	4,299
Oregon	1,442	1,457	0	38	0	0	3,236	6,173
Pennsylvania	4,229	603	300	0	0	0	4,685	9,817
Rhode Island	494	281	0	8	0	0	671	1,454
South Carolina	2,240	4,373	258	16	0	0	7,767	14,654
South Dakota	697	1,006	67	0	0	0	2,941	4,711
Tennessee	2,533	2,713	0	20	0	0	5,701	10,967
Texas	9,794	2,006	478	219	0	44	15,864	28,405
Utah	1,423	1,012	0	0	0	0	2,419	4,854
Vermont	265	0	0	0	0	0	376	641
Virginia	5,489	1,195	269	2	0	0	10,679	17,634
Washington	3,706	597	18	2	0	20	6,370	10,713
West Virginia	921	0	24	0	0	0	1,022	1,967
Wisconsin	2,136	1,922	0	0	0	0	4,037	8,095
Wyoming	433	30	0	1	0	0	740	1,204
State Unknown	0	0	0	0	0	0	1	1
Total	**129,276**	**75,455**	**4,715**	**1,090**	**8**	**1,034**	**238,749**	**450,327**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Excludes E85 vehicles used by private individuals (non-fleet users) because most of those are believed to be in use as traditional gasoline-powered vehicles. Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V12. Estimated Number of Hydrogen Vehicles in Use, by State and User Group, 2008

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	0	0	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0	0	0
California	0	0	0	0	0	0	0	0
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0

New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	2	3	7	0	0	7	294	313
Total	**2**	**3**	**7**	**0**	**0**	**7**	**294**	**313**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V13. Estimated Number of Liquefied Natural Gas (LNG) Vehicles in Use, by State and User Group, 2008

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	7	0	0	0	0	58	649	714
Arkansas	0	0	0	0	0	0	0	0
California	0	0	11	69	0	327	1,358	1,765
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	26	0	0	0	0	0	61	87
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	6	0	14	20
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0

New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	1	0	0	0	19	20
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	1	0	205	216	422
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	0	0	0	0	0	0	73	73
Total	**33**	**0**	**12**	**70**	**6**	**590**	**2,390**	**3,101**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V14. Estimated Number of Liquefied Petroleum Gas (LPG) Vehicles in Use, by State and User Group, 2008

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	1	0	11	0	284	0	1,185	1,481
Alaska	4	0	0	0	17	0	167	188
Arizona	10	134	86	0	294	51	5,404	5,979
Arkansas	2	8	6	0	195	0	1,157	1,368
California	12	1,283	47	19	520	31	6,970	8,882
Colorado	25	16	2	1	163	51	4,002	4,260
Connecticut	0	0	0	0	44	0	252	296
Delaware	0	0	0	0	3	0	21	24
District of Columbia	0	0	0	0	0	0	90	90
Florida	33	65	0	0	393	0	4,437	4,928
Georgia	1	162	20	0	271	0	8,435	8,889
Hawaii	15	0	4	0	33	0	1,196	1,248
Idaho	8	6	1	0	67	0	562	644
Illinois	0	0	0	3	258	0	1,784	2,045
Indiana	0	0	0	15	307	0	2,327	2,649
Iowa	0	0	0	0	89	0	701	790
Kansas	0	0	0	4	102	0	704	810
Kentucky	0	0	0	0	165	0	920	1,085
Louisiana	32	0	2	0	59	0	1,936	2,029
Maine	1	3	0	0	15	37	351	407
Maryland	2	0	5	0	40	0	268	315
Massachusetts	0	4	0	0	41	7	306	358
Michigan	1	2	0	8	383	0	2,505	2,899
Minnesota	0	0	1	14	163	1	2,842	3,021
Mississippi	0	392	0	0	300	0	3,385	4,077
Missouri	0	35	7	0	427	0	3,244	3,713
Montana	2	0	0	0	52	0	330	384
Nebraska	0	0	0	0	39	0	246	285
Nevada	0	97	0	0	44	0	2,826	2,967

New Hampshire	0	0	0	0	50	0	183	233
New Jersey	2	61	0	1	92	0	2,859	3,015
New Mexico	0	130	10	0	147	0	1,328	1,615
New York	0	13	0	0	134	0	1,630	1,777
North Carolina	1	146	1	0	431	0	4,375	4,954
North Dakota	0	0	0	0	17	0	84	101
Ohio	0	4	0	0	300	0	2,399	2,703
Oklahoma	2	2	0	0	196	0	911	1,111
Oregon	0	1	0	0	37	180	797	1,015
Pennsylvania	0	0	0	0	140	0	976	1,116
Rhode Island	0	0	0	0	6	0	38	44
South Carolina	0	60	16	0	163	0	957	1,196
South Dakota	0	0	0	0	28	0	76	104
Tennessee	2	0	0	3	78	24	474	581
Texas	10	4,309	372	61	582	145	53,959	59,438
Utah	29	0	0	0	33	0	256	318
Vermont	0	0	0	0	31	0	160	191
Virginia	13	0	12	0	182	0	1,579	1,786
Washington	2	0	0	0	128	0	865	995
West Virginia	2	0	0	0	37	0	220	259
Wisconsin	0	7	0	2	241	0	1,812	2,062
Wyoming	4	0	0	0	34	0	190	228
State Unknown	0	0	0	0	0	0	96	96
Total	**216**	**6,940**	**603**	**131**	**7,855**	**527**	**134,777**	**151,049**

[a] Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table V15. Estimated Number of Alternative Fueled Vehicles in Use by Federal Agencies, by Agency, Weight Class, and Fuel Type, 2008

Agency	Light Duty							Medium Duty							Heavy Duty							Grand Total
	Compressed Natural Gas (CNG)	Electric[a]	Ethanol, 85 Percent (E85)	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Total	Compressed Natural Gas (CNG)	Electric[a]	Ethanol, 85 Percent (E85)	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Total	Compressed Natural Gas (CNG)	Electric[a]	Ethanol, 85 Percent (E85)	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Total	
Consumer Product Safety Commission	0	0	25	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Corps of Engineers, Civil Works	9	0	1,927	0	0	0	1,936	0	0	5	0	0	0	5	0	0	0	0	0	0	0	1,941
Court Services and Offender Supervision Agency	0	0	48	0	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Defense Agencies	38	0	1,611	0	0	0	1,649	13	0	7	0	0	0	20	0	0	0	0	0	0	0	1,669
Department of Agriculture	27	0	6,960	0	0	23	7,010	12	0	14	0	0	0	26	7	0	0	0	0	1	8	7,044
Department of Air Force	433	15	5,847	0	0	1	6,296	313	0	135	0	0	0	448	22	5	0	0	0	0	27	6,771
Department of Army	217	0	25,864	0	0	17	26,098	263	0	100	0	0	2	365	0	0	0	1	0	1	2	26,465
Department of Commerce	23	0	568	0	0	0	591	11	1	7	0	0	0	19	0	0	0	0	0	0	0	610
Department of Education	0	0	27	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Department of Energy	223	0	4,467	0	19	5	4,714	78	0	138	0	0	1	217	1	0	0	0	7	0	8	4,939
Department of Health and Human Services	3	0	1,299	0	0	0	1,302	5	0	11	0	0	0	16	0	0	0	0	0	0	0	1,318
Department of Homeland Security	10	0	7,111	0	0	1	7,122	18	0	1,326	0	0	0	1,344	0	0	0	0	0	0	0	8,466
Department of Housing and Urban Development	0	0	72	0	0	0	72	0	0	1	0	0	0	1	0	0	0	0	0	0	0	73
Department of Justice	61	0	1,972	0	0	0	2,033	2	0	0	0	0	0	2	2	0	0	0	0	0	2	2,037
Department of Labor	0	0	1,510	0	0	0	1,510	4	0	0	0	0	0	4	0	0	0	0	0	0	0	1,514
Department of Navy	555	0	9,622	0	0	1	10,178	172	0	405	0	0	0	577	20	0	0	0	0	0	20	10,775
Department of State	4	0	423	0	0	0	427	13	0	0	0	0	0	13	6	0	0	0	0	0	6	446
Department of the Interior	69	10	2,864	0	0	38	2,981	41	2	14	0	0	12	69	33	20	0	0	7	41	101	3,151
Department of Transportation	6	0	2,427	0	0	0	2,433	6	0	9	0	0	0	15	1	0	0	0	0	0	1	2,449
Department of Treasury	0	0	374	0	0	0	374	1	0	1	0	0	0	2	0	0	0	0	0	0	0	376
Department of Veterans Affairs	7	0	4,539	0	0	0	4,546	4	0	43	0	0	1	48	1	0	0	0	0	0	1	4,595
Environmental Protection Agency	2	0	437	1	0	0	440	2	0	9	0	0	0	11	0	0	0	0	0	0	0	451
Equal Employment Opportunity Commission	0	0	34	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Federal Communications Commission	0	0	67	0	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
Federal Deposit Insurance Corporation	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
General Services Administration	3	0	802	0	0	0	805	2	0	0	0	0	0	2	0	0	0	0	0	0	0	807
Library of Congress	0	0	13	0	0	0	13	2	0	3	0	0	0	5	0	0	0	0	0	0	0	18
National Aeronautics and Space Administration	178	0	1,341	0	0	26	1,545	72	0	14	0	0	6	92	0	0	0	0	0	1	1	1,638
National Labor Relations Board	0	0	14	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
National Science Foundation	0	0	14	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Nuclear Regulatory Commission	0	0	12	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Office of Personnel Management	0	0	523	0	0	0	523	0	0	0	0	0	0	0	0	0	0	0	0	0	0	523
Peace Corps	0	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Small Business Administration	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Smithsonian Institution	6	0	54	0	0	0	60	9	0	1	0	0	0	10	0	0	0	0	0	0	0	70
Social Security Administration	0	0	279	0	0	0	279	3	0	2	0	0	0	5	1	0	0	0	0	0	1	285
Tennessee Valley Authority	0	0	183	0	0	0	183	2	0	0	0	0	0	2	0	0	0	0	0	0	0	185

U.S. Postal Service	4,526	0	41,408	0	0	35	45,969	58	30	1	0	0	0	89	6	0	0	0	0	0	6	46,064
United States Marine Corps	457	0	2,261	0	0	3	2,721	117	0	11	0	0	0	128	19	0	0	0	0	0	19	2,868
Total	**6,857**	**25**	**127,019**	**1**	**19**	**150**	**134,071**	**1,223**	**33**	**2,257**	**0**	**0**	**22**	**3,535**	**119**	**25**	**0**	**1**	**14**	**44**	**203**	**137,809**

[a]Excludes gasoline-electric and diesel-electric hybrids.

Notes: Vehicles in Use do not include concept and demonstration vehicles that are not ready for delivery to end users. Vehicles in Use represent accumulated acquisitions, less retirements, as of the end of each calendar year. Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR). Medium duty includes vehicles 8,501 to 26,000 pounds GVWR. Heavy duty includes vehicles 26,001 pounds and over GVWR.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C1. Estimated Consumption of Vehicle Fuels in the United States, by Fuel Type, 2004 - 2008

(Thousand Gasoline-Equivalent Gallons)

Fuel Type	2004	2005	2006	2007	2008
Alternative Fuels					
Compressed Natural Gas (CNG)	158,903	166,878	172,011	178,565	189,358
Electricity	5,269	5,219	5,104	5,037	5,050
Ethanol, 85 percent (E85)[a]	31,581	38,074	44,041	54,091	62,464
Hydrogen	8	25	41	66	117
Liquefied Natural Gas (LNG)	20,888	22,409	23,474	24,594	25,554
Liquefied Petroleum Gas (LPG)	211,883	188,171	173,130	152,360	147,784
Other Fuels[b]	0	2	2	2	2
Subtotal	428,532	420,778	417,803	414,715	430,329
Biodiesel	27,616[R]	93,281[R]	267,623[R]	367,764[R]	324,329
Oxygenates					
Methyl Tertiary Butyl Ether (MTBE)[c] and Other Oxygenates	1,877,300	1,654,500	435,000	0	0
Ethanol in Gasohol	2,414,167	2,756,663	3,729,168	4,694,304	6,442,781
Total Alternative and Replacement Fuels[d]	**4,747,615**	**4,925,222**	**4,849,594**	**5,476,783**	**7,197,439**
Traditional Fuels					
Gasoline[e]	138,283,000	138,723,000	140,146,000	140,646,000	134,644,492
Diesel[e]	41,987,000	43,042,000	44,247,000	44,533,000	41,962,388
Total Fuel Consumption[f]	**180,698,532**	**182,185,778**	**184,810,803**	**185,593,715**	**177,037,209**

[a]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[b]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

[c]Other Oxygenates are assumed to be primarily Tertiary Amyl Methyl Ether (TAME).

[d]A replacement fuel is the portion of any motor fuel that is methanol, ethanol, or other alcohols, natural gas, liquefied petroleum gases, hydrogen, coal-derived liquid fuels, electricity (including electricity from solar energy), ethers, biodiesel,or any other fuel the Secretary of Energy determines, by rule, is substantially not petroleum and would yield substantial energy security benefits and substantial environmental benefits.

[e]Gasoline consumption includes ethanol in gasohol and MTBE. Diesel includes biodiesel.

[f]Total fuel consumption is the sum of alternative fuel, gasoline, and diesel consumption. Oxygenate consumption is included in gasoline consumption. Biodiesel is included in diesel consumption.
R = Revised

Notes: Fuel quantities are expressed in a common base unit of gasoline-equivalent gallons to allow comparisons of different fuel types. Gasoline-equivalent gallons do not represent gasoline displacement. The estimated consumption of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) is zero for all years included in this table. Therefore, those fuels are not shown. Totals may not equal sum of components due to independent rounding.

Sources:

Data obtained from Table C2 and converted to gasoline-gallon equivalents using higher heating values for each fuel. See Table C2 for sources of data in native units.

Biodiesel and Gasoline: U.S. Energy Information Administration, Monthly Energy Review March 2010, Table A3

MTBE: Argonne National Laboratory GREET Model, Table A.1.

Other Oxygenates: Argonne National Laboratory GREET Model, Table A.1. Assumed to be tertiary amyl methyl ether (TAME).

Ethanol: U.S. Energy Information Administration, Monthly Energy Review, March 2010, Table A3

Diesel: Annual Energy Outlook 2010, Table 128. Highway diesel in 2004 and 2005 was assumed to be low-sulfur diesel fuel. Highway diesel in 2006, 2007, and 2008 was assumed to be 20%, 80%, and 80% ultra-low sulfur diesel fuel, respectively, with the remainder supplied by low-sulfur diesel fuel.

Table C2. Estimated Consumption of Vehicle Fuels in Native Units, by Fuel Type, 2004 - 2008

Fuel Type	Units	2004	2005	2006	2007	2008
Alternative Fuels						
Compressed Natural Gas (CNG)	million cubic feet	19,145	20,106	20,724	21,514	22,814
Electricity	thousand kwh	175,633	173,967	170,133	167,900	168,333
Ethanol, 85 percent (E85)[a]	thousand gallons	43,862	52,881	61,168	75,126	86,756
Hydrogen	thousand kilograms	7	23	37	60	107
Liquefied Natural Gas (LNG)	thousand gallons	31,648	33,953	35,567	37,264	38,718
Liquefied Petroleum Gas (LPG)	thousand gallons	286,328	254,285	233,959	205,892	199,708
Other Fuels[b]		na	na	na	na	na
Biodiesel	thousand gallons	26,878[R]	90,827[R]	260,584[R]	358,156[R]	315,796
Oxygenates						
Methyl Tertiary Butyl Ether (MTBE)[c] and Other Oxygenates	thousand gallons	2,309,160	2,035,320	534,912	0	0
Ethanol in Gasohol	thousand gallons	3,514,909	4,013,679	5,429,217	6,885,690	9,435,428
Traditional Fuels Used On-Highway						
Gasoline[d]	thousand gallons	138,283,000	138,723,000	140,146,000	140,646,000	134,644,492
Diesel[d]	thousand gallons	37,122,000	38,054,000	39,120,000	39,373,000	38,006,669

[a]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[b]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

[c]Other Oxygenates are assumed to be primarily Tertiary Amyl Methyl Ether (TAME).

[d]Gasoline consumption includes ethanol in gasohol and MTBE. Diesel includes biodiesel. Gasoline and diesel values are rounded to the nearest million gallons.

Notes: R = Revised, na=not applicable, kwh=kilowatt hours. Totals may not equal sum of components due to independent rounding.

Sources:

Gasoline: U.S. Energy Information Administration, Petroleum Supply Annual Volume 1, Table 1, Product Supplied. Starting in 2008, the fraction of gasoline used on-highway was determined from the Federal Highway Administration's "Highway Statistics". Highway use of gasoline and total use of gasoline are found in Table MF-21. Aviation gasoline use is found in Table MF-24. The fraction is calculated as (total highway use of gasoline)/(total use of gasoline - aviation gasoline). The estimated fractions of gasoline use that were on-highway in 2008 was 0.974.

Biodiesel: U.S. Energy Information Administration, Monthly Energy Review, forthcoming May 2010 issue, Table 10.4, Consumption.

MTBE: U.S. Energy Information Administration, Petroleum Supply Annual Volume 1, Table 15, html version, Refinery and Blender Net Inputs. For years 2004 through 2006, highway use of MTBE was estimated by applying the fraction of gasoline used on-highway for the year to the MTBE quantity. Highway use of MTBE was assumed to be zero after 2006, since U.S. refineries and blenders voluntarily discontinued the use of MTBE in highway gasoline in mid-2006. Refinery and blender inputs of MTBE after 2006 were for export markets only.

All Other Oxygenates: U.S. Energy Information Administration, Petroleum Supply Annual Volume 1, Table 15, html version, Refinery and Blender Net Inputs. Fuel ethanol is not included in this category. Highway use of All Other Oxygenates estimated by applying the fraction of gasoline used on-highway for each year to the All Other Oxygenates quantity.

Ethanol: U.S. Energy Information Administration, Monthly Energy Review, February 2010 Table 10.3, Consumption. Highway use of ethanol estimated by applying the fraction of gasoline used on-highway for each year to the ethanol quantity.

Diesel: U.S.Energy Information Administration, Fuel Oil and Kerosene Sales 2008, Table 1, Sales of Distillate Fuel Oil, On-Highway

Table C3. Estimated Consumption of Alternative Fuels, by State, 2004 - 2008

(Thousand Gasoline-Equivalent Gallons)

State	2004	2005	2006	2007	2008
Alabama	6,568	6,276	5,175	4,562	4,386
Alaska	624	619	433	526	558
Arizona	20,584	20,617	22,865	23,095	23,714
Arkansas	3,574	2,551	2,547	2,718	2,775
California	85,650	96,086	100,170	109,114	116,010
Colorado	5,862	5,714	6,569	7,274	7,546
Connecticut	2,059	1,708	1,505	1,572	1,576
Delaware	481	493	373	345	332
District of Columbia	1,853	1,617	1,600	1,358	1,181
Florida	12,286	11,291	11,019	10,778	10,303
Georgia	17,562	15,282	15,114	16,010	16,881
Hawaii	1,027	786	432	758	1,072
Idaho	2,476	2,423	2,534	2,543	1,988
Illinois	9,543	8,916	8,100	7,830	7,827
Indiana	5,464	5,717	6,158	5,900	5,370
Iowa	2,832	2,353	2,256	2,487	1,989
Kansas	2,363	2,253	2,046	2,074	2,103
Kentucky	3,273	2,777	2,726	2,956	3,021
Louisiana	2,036	1,949	1,812	1,921	2,051
Maine	729	683	918	1,030	1,250
Maryland	6,456	7,271	9,925	10,125	10,395
Massachusetts	8,129	8,108	7,381	7,228	7,549
Michigan	8,532	7,564	7,176	7,487	7,677
Minnesota	6,722	6,068	6,350	7,013	6,178
Mississippi	4,934	5,597	5,290	4,867	5,072
Missouri	8,368	7,084	6,841	6,795	7,359
Montana	1,494	1,332	1,116	1,681	1,314
Nebraska	1,147	984	981	1,020	987
Nevada	7,330	7,864	8,509	8,349	8,608
New Hampshire	819	751	550	631	604
New Jersey	5,941	5,417	4,548	3,504	3,873
New Mexico	5,448	5,089	5,030	4,660	4,985
New York	24,731	23,906	26,790	26,229	31,707
North Carolina	11,456	10,078	8,875	9,867	10,426
North Dakota	1,137	647	557	978	952
Ohio	11,474	10,331	9,910	9,434	9,235
Oklahoma	14,090	11,900	9,563	5,721	4,016
Oregon	4,225	4,182	3,951	4,138	3,850
Pennsylvania	6,991	6,637	6,055	6,076	5,786
Rhode Island	1,628	1,437	1,451	1,310	1,001
South Carolina	4,725	3,978	3,737	3,739	4,269
South Dakota	538	498	528	1,143	1,375
Tennessee	3,236	2,894	3,130	3,043	3,276
Texas	64,464	65,152	60,038	49,449	51,973
Utah	2,885	2,635	2,728	3,025	3,459
Vermont	843	629	638	495	548
Virginia	7,750	6,297	6,566	7,181	6,924
Washington	7,525	8,151	8,416	7,623	7,347
West Virginia	1,099	873	779	793	769
Wisconsin	5,649	5,238	4,689	4,670	4,770
Wyoming	1,197	1,053	1,144	1,279	885
State Unknown	723	1,022	209	311	1,227
Total	**428,532**	**420,778**	**417,803**	**414,715**	**430,329**

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C4. Estimated Consumption of Alternative Fuels by State and Fuel Type, 2008

(Thousand Gasoline-Equivalent Gallons)

State	Compressed Natural Gas (CNG)	Electric	Ethanol, 85 Percent (E85)[a]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[b]	Total
Alabama	695	5	1,115	0	0	2,571	0	4,386
Alaska	207	2	0	0	0	349	0	558
Arizona	7,809	77	2,858	0	8,637	4,333	0	23,714
Arkansas	101	23	240	0	0	2,411	0	2,775
California	85,080	1,830	6,184	0	11,796	11,120	0	116,010
Colorado	993	43	1,681	0	0	4,829	0	7,546
Connecticut	666	15	305	0	0	590	0	1,576
Delaware	34	0	248	0	0	50	0	332
District of Columbia	370	0	743	0	0	68	0	1,181
Florida	1,131	30	3,665	0	0	5,477	0	10,303
Georgia	8,874	130	1,513	0	0	6,364	0	16,881
Hawaii	0	80	31	0	0	961	0	1,072
Idaho	443	0	526	0	50	969	0	1,988
Illinois	1,901	3	2,574	0	0	3,349	0	7,827
Indiana	1,006	0	889	0	0	3,475	0	5,370
Iowa	0	4	691	0	0	1,294	0	1,989
Kansas	88	0	418	0	0	1,597	0	2,103
Kentucky	56	0	932	0	0	2,033	0	3,021
Louisiana	146	5	771	0	0	1,129	0	2,051
Maine	11	0	17	0	0	1,222	0	1,250
Maryland	8,012	186	1,614	0	0	583	0	10,395
Massachusetts	6,236	634	121	0	0	558	0	7,549
Michigan	1,305	92	1,859	0	0	4,421	0	7,677
Minnesota	84	0	1,964	0	40	4,090	0	6,178
Mississippi	25	0	437	0	0	4,610	0	5,072
Missouri	509	0	1,229	0	0	5,621	0	7,359
Montana	7	15	594	0	0	698	0	1,314
Nebraska	218	0	420	0	0	349	0	987
Nevada	3,664	6	639	0	0	4,299	0	8,608
New Hampshire	119	11	4	0	0	470	0	604
New Jersey	1,488	10	125	0	0	2,250	0	3,873
New Mexico	1,942	0	1,765	0	0	1,278	0	4,985
New York	27,804	368	1,366	0	0	2,169	0	31,707
North Carolina	252	93	3,942	0	0	6,139	0	10,426
North Dakota	5	0	790	0	0	157	0	952
Ohio	2,182	710	1,587	0	0	4,756	0	9,235
Oklahoma	1,905	0	461	0	0	1,650	0	4,016
Oregon	1,500	43	821	0	26	1,460	0	3,850
Pennsylvania	2,420	0	1,115	0	0	2,251	0	5,786
Rhode Island	800	77	24	0	0	100	0	1,001
South Carolina	88	97	2,282	0	0	1,802	0	4,269
South Dakota	0	11	1,181	0	0	183	0	1,375
Tennessee	119	24	1,844	0	0	1,289	0	3,276
Texas	11,276	35	3,835	0	4,937	31,890	0	51,973
Utah	1,775	0	613	0	0	1,071	0	3,459
Vermont	6	140	8	0	0	394	0	548
Virginia	1,180	145	2,404	0	0	3,195	0	6,924
Washington	4,082	15	1,542	0	0	1,708	0	7,347
West Virginia	21	0	222	0	0	526	0	769
Wisconsin	469	0	1,188	0	0	3,113	0	4,770
Wyoming	175	12	319	0	0	379	0	885
State Unknown	79	79	748	117	68	134	2	1,227
Total	**189,358**	**5,050**	**62,464**	**117**	**25,554**	**147,784**	**2**	**430,329**

[a]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[b]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

Notes: The estimated consumption of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) is zero for the year included in this table. Therefore, those fuels are not shown. Totals may not equal sum of components due to independent rounding. Some fuel categories show zero fuel consumption in states where vehicle inventory exists. In these situations, the vehicles are non-dedicated vehicles operating on traditional fuel (e.g., gasoline or diesel fuel).

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C5. Estimated Consumption of Alternative Fuels, by Fuel Type and Vehicle Weight Class, 2004 - 2008

(Thousand Gasoline-Equivalent Gallons)

Fuel Type	2004				2005				2006				2007				2008			
	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total	Light Duty	Medium Duty	Heavy Duty	Total
Compressed Natural Gas (CNG)	29,258	19,151	110,494	158,903	28,725	18,907	119,246	166,878	26,946	15,461	129,604	172,011	26,037	17,862	134,666	178,565	24,765	18,516	146,077	189,358
Electric	3,544	44	1,681	5,269	3,607	44	1,568	5,219	3,402	30	1,672	5,104	3,370	32	1,635	5,037	3,276	22	1,752	5,050
Ethanol, 85 percent (E85)[a]	31,435	146	0	31,581	37,770	304	0	38,074	41,952	2,088	1	44,041	49,581	4,509	1	54,091	57,526	4,937	1	62,464
Hydrogen	2	0	6	8	11	0	14	25	17	0	24	41	29	0	37	66	30	0	87	117
Liquefied Natural Gas (LNG)	57	199	20,632	20,888	59	193	22,157	22,409	58	183	23,233	23,474	55	173	24,366	24,594	67	166	25,321	25,554
Liquefied Petroleum Gas (LPG)	49,816	58,551	103,516	211,883	48,139	55,911	84,121	188,171	44,519	39,855	88,756	173,130	33,393	32,611	86,356	152,360	33,681	29,455	84,648	147,784
Other Fuels[b]	0	0	0	0	2	0	0	2	2	0	0	2	2	0	0	2	2	0	0	2
Total	**114,112**	**78,091**	**236,329**	**428,532**	**118,313**	**75,359**	**227,106**	**420,778**	**116,896**	**57,617**	**243,290**	**417,803**	**112,467**	**55,187**	**247,061**	**414,715**	**119,347**	**53,096**	**257,886**	**430,329**

[a]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[b]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

Notes: Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR). Medium duty includes vehicles 8,501 to 26,000 pounds GVWR. Heavy duty includes vehicles 26,001 pounds and over GVWR. The estimated consumption of neat methanol (M100), 85-percent methanol (M85), and 95-percent ethanol (E95) is zero for all years included in this table. Therefore, those fuels are not shown.

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C6. Estimated Consumption of Alternative Fuels, by Weight Class, Vehicle Type, and Fuel Type, 2008

(Thousand Gasoline-Equivalent Gallons)

Weight Class/ Vehicle Type	Compressed Natural Gas (CNG)	Electric	Ethanol, 85 Percent (E85)[a]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[b]	Total
Light Duty Vehicles	24,765	3,276	57,526	30	67	33,681	2	119,347
Automobiles								
Subcompact	891	397	26	0	0	14	0	1,328
Compact	3,620	489	2,986	17	4	279	0	7,395
Midsize	987	89	4,229	0	0	1,515	0	6,820
Fullsize	2,689	0	7,189	5	0	4,419	0	14,302
Vans								
Minivans	738	57	7,020	0	0	1,713	0	9,528
Light-Duty Vans	6,348	23	2,406	0	2	7,984	0	16,763
Pickup Trucks	7,296	911	13,930	2	47	15,564	0	37,750
SUVs	203	360	18,973	6	2	345	2	19,891
Trucks	1,850	193	18	0	2	1,844	0	3,907
Other Vehicles[c]	143	757	749	0	10	4	0	1,663
Medium Duty Vehicles	18,516	22	4,937	0	166	29,455	0	53,096
Vans	4,594	2	492	0	3	5,941	0	11,032
Pickups	5,930	0	4,003	0	0	6,241	0	16,174
Trucks	7,992	20	442	0	163	17,273	0	25,890
Heavy Duty Vehicles	146,077	1,752	1	87	25,321	84,648	0	257,886
Trucks	5,486	16	0	0	4,581	73,259	0	83,342
Buses	140,591	1,736	1	87	20,740	11,389	0	174,544
Total	**189,358**	**5,050**	**62,464**	**117**	**25,554**	**147,784**	**2**	**430,329**

[a]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[b]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

[c]Includes motorcycles, low speed vehicles (e.g., neighborhood electric vehicles), and other unspecified vehicles.

Notes: Light duty includes vehicles less than or equal to 8,500 pounds Gross Vehicle Weight Rating (GVWR). Medium duty includes vehicles 8,501 to 26,000 pounds GVWR. Heavy duty includes vehicles 26,001 pounds and over GVWR. Some fuel categories show zero fuel consumption where vehicle inventory exists. In these situations, the vehicles are non-dedicated vehicles operating on traditional fuel (e.g., gasoline or diesel fuel).

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C7. Estimated Consumption of Alternative Fuels, by Vehicle Category, Configuration, and Fuel Type, 2008

(Thousand Gasoline-Equivalent Gallons)

Vehicle Category/ Configuration	Compressed Natural Gas (CNG)	Electric	Ethanol, 85 Percent (E85)[a]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[b]	Total
Automobiles	8,187	975	14,430	22	4	6,227	0	29,845
Dedicated	4,604	975	0	5	0	4,276	0	9,860
Non-dedicated	3,583	0	14,430	17	4	1,951	0	19,985
Vans[c]	11,680	82	9,918	0	5	15,638	0	37,232
Dedicated	6,995	82	0	0	3	6,678	0	13,758
Non-dedicated	4,685	0	9,918	0	2	8,960	0	23,565
Pickup Trucks[d]	13,226	911	17,933	2	47	21,805	0	53,924
Dedicated	4,833	911	0	2	3	4,260	0	10,009
Non-dedicated	8,393	0	17,933	0	44	17,545	0	43,915
Other Trucks[e]	15,531	589	19,433	6	4,748	92,721	2	133,030
Dedicated	10,378	588	0	0	3,368	82,405	0	96,739
Non-dedicated	5,153	1	19,433	6	1,380	10,316	2	36,291
Buses	140,591	1,736	1	87	20,740	11,389	0	174,544
Dedicated	137,483	1,731	0	65	20,637	9,612	0	169,528
Non-dedicated	3,108	5	1	22	130	1,777	0	5,016
Other Vehicles[f]	143	757	749	0	10	4	0	1663
Dedicated	4	757	0	0	10	2	0	773
Non-dedicated	139	0	749	0	0	2	0	890
Total	**189,358**	**5,050**	**62,464**	**117**	**25,554**	**147,784**	**2**	**430,329**
Dedicated	**164,297**	**5,044**	**0**	**72**	**24,021**	**107,233**	**0**	**300,667**
Non-dedicated	**25,061**	**6**	**62,464**	**45**	**1,533**	**40,551**	**2**	**129,662**

[a]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[b]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

[c]Includes minivans, light duty vans, and medium duty vans.

[d]Includes light duty and medium duty pickup trucks.

[e]Includes SUVs, heavy-duty trucks, and all light- and medium-duty trucks except pickup trucks.

[f]Includes motorcycles, low speed vehicles (e.g., neighborhood electric vehicles), and other unspecified vehicles.

Notes: Dedicated vehicles are designed to operate exclusively on one alternative fuel. Non-dedicated vehicles are configured to operate on more than one fuel.

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C8. Estimated Consumption of Alternative Fuels, by User Group, 2004 - 2008

(Thousand Gasoline-Equivalent Gallons)

User Group	2004	2005	2006	2007	2008
Federal Agencies	12,589	12,088	13,119	13,995	7,466
State Agencies	14,035	15,062	18,126	17,635	20,095
Electric Fuel Providers	4,316	3,866	3,793	4,004	3,981
Natural Gas Fuel Providers	5,033	4,744	3,875	3,331	3,046
Propane Fuel Providers	42,079	38,134	27,115	21,230	17,174
Transit Agencies	101,658	105,914	115,540	112,352	117,509
Other Private & Municipal Governments[a]	248,822	240,970	236,235	242,168	261,058
Total	**428,532**	**420,778**	**417,803**	**414,715**	**430,329**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Beginning in 2008, consumption data for federal agencies came directly from the DOE/GSA Federal Automotive Statistical Tool (FAST).

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C9. Estimated Consumption of Alternative Fuels, by User Group and Fuel Type, 2008

(Thousand Gasoline-Equivalent Gallons)

User Group	Compressed Natural Gas (CNG)	Electric	Ethanol, 85 Percent (E85)[a]	Hydrogen	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG)	Other Fuels[b]	Total
Federal Agencies	728	3	6,279	0	60	396	0	**7,466**
State Agencies	10,063	68	7,045	0	0	2,919	0	**20,095**
Electric Fuel Providers	2,141	91	1,140	6	40	563	0	**3,981**
Natural Gas Fuel Providers	2,422	4	246	0	204	170	0	**3,046**
Propane Fuel Providers	2	2	6	0	12	17,152	0	**17,174**
Transit Agencies	107,285	413	222	11	8,355	1,223	0	**117,509**
Other Private & Municipal Governments[c]	66,717	4,469	47,526	100	16,883	125,361	2	**261,058**
Total	**189,358**	**5,050**	**62,464**	**117**	**25,554**	**147,784**	**2**	**430,329**

[a]The remaining portion of 85-percent ethanol is gasoline. Consumption data include the gasoline portion of the fuel.

[b]May include P-Series fuel or any other fuel designated by the Secretary of Energy as an alternative fuel in accordance with the Energy Policy Act of 1995.

[c]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Beginning in 2008, consumption data for federal agencies came directly from the DOE/GSA Federal Automotive Statistical Tool (FAST).

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C10. Estimated Consumption of Compressed Natural Gas (CNG) by Vehicles, by State and User Group, 2008

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	1	0	21	0	540	133	695
Alaska	6	4	14	0	0	0	183	207
Arizona	171	128	175	117	0	2,056	5,162	7,809
Arkansas	0	11	0	15	0	0	75	101
California	218	1,291	1,257	523	0	55,389	26,402	85,080
Colorado	2	0	3	47	0	520	421	993
Connecticut	0	27	28	21	0	0	590	666
Delaware	0	0	2	1	0	0	31	34
District of Columbia	12	45	7	0	0	0	306	370
Florida	18	20	4	39	0	161	889	1,131
Georgia	1	77	32	4	0	6,478	2,282	8,874
Hawaii	0	0	0	0	0	0	0	0
Idaho	0	0	6	0	0	342	95	443
Illinois	21	0	130	11	0	576	1,163	1,901
Indiana	1	0	101	52	0	0	852	1,006
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	33	0	0	55	88
Kentucky	0	0	0	0	0	0	56	56
Louisiana	0	0	22	1	0	0	123	146
Maine	0	0	0	0	0	0	11	11
Maryland	7	26	0	5	0	7,044	930	8,012
Massachusetts	2	350	0	57	0	4,965	862	6,236
Michigan	0	3	9	0	0	636	657	1,305
Minnesota	0	0	0	7	0	51	26	84
Mississippi	2	0	0	0	0	0	23	25
Missouri	0	1	1	8	0	456	43	509
Montana	0	0	0	0	2	0	5	7
Nebraska	0	0	0	45	0	0	173	218
Nevada	23	32	0	48	0	704	2,857	3,664

New Hampshire	0	42	0	0	0	0	77	119
New Jersey	2	224	32	9	0	570	651	1,488
New Mexico	1	224	0	20	0	1,280	417	1,942
New York	24	7,144	2	368	0	14,777	5,489	27,804
North Carolina	17	2	6	23	0	0	204	252
North Dakota	0	0	0	0	0	0	5	5
Ohio	5	6	126	2	0	1,659	384	2,182
Oklahoma	15	1	18	305	0	0	1,566	1,905
Oregon	0	35	19	69	0	752	625	1,500
Pennsylvania	3	67	51	87	0	947	1,265	2,420
Rhode Island	0	125	0	2	0	253	420	800
South Carolina	3	20	5	4	0	0	56	88
South Dakota	0	0	0	0	0	0	0	0
Tennessee	1	0	21	9	0	0	88	119
Texas	118	92	5	52	0	3,643	7,366	11,276
Utah	0	18	0	345	0	0	1,412	1,775
Vermont	0	0	0	2	0	0	4	6
Virginia	14	21	4	19	0	217	905	1,180
Washington	0	0	49	22	0	3,269	742	4,082
West Virginia	0	0	0	0	0	0	21	21
Wisconsin	2	26	12	1	0	0	428	469
Wyoming	0	0	0	28	0	0	147	175
State Unknown	39	0	0	0	0	0	40	79
Total	**728**	**10,063**	**2,141**	**2,422**	**2**	**107,285**	**66,717**	**189,358**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Notes: Totals may not equal sum of components due to independent rounding. Some fuel categories show zero fuel consumption in states where vehicle inventory exists. In these situations, the vehicles are non-dedicated vehicles operating on traditional fuel (e.g., gasoline or diesel fuel).

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C11. Estimated Consumption of Electricity by Vehicles, by State and User Group, 2008

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	0	0	0	0	0	5	5
Alaska	0	0	0	0	0	0	2	2
Arizona	0	2	1	1	0	0	73	77
Arkansas	0	0	0	0	0	0	23	23
California	0	17	82	1	0	23	1,707	1,830
Colorado	0	0	0	0	0	0	43	43
Connecticut	0	0	0	0	0	0	15	15
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	2	0	28	30
Georgia	0	0	0	0	0	0	130	130
Hawaii	0	0	0	0	0	0	80	80
Idaho	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	3	3
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	4	4
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	5	5
Maine	0	0	0	0	0	0	0	0
Maryland	0	4	0	0	0	0	182	186
Massachusetts	0	3	0	0	0	134	497	634
Michigan	0	1	0	0	0	0	91	92
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	15	15
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	1	0	0	5	6

New Hampshire	0	1	0	0	0	0	10	11
New Jersey	0	0	0	0	0	0	10	10
New Mexico	0	0	0	0	0	0	0	0
New York	3	6	7	1	0	0	351	368
North Carolina	0	21	0	0	0	0	72	93
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	228	482	710
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	2	0	0	0	0	41	43
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	1	0	0	0	0	76	77
South Carolina	0	5	0	0	0	0	92	97
South Dakota	0	0	0	0	0	0	11	11
Tennessee	0	0	0	0	0	19	5	24
Texas	0	3	0	0	0	0	32	35
Utah	0	0	0	0	0	0	0	0
Vermont	0	2	1	0	0	0	137	140
Virginia	0	0	0	0	0	9	136	145
Washington	0	0	0	0	0	0	15	15
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	12	12
State Unknown	0	0	0	0	0	0	79	79
Total	**3**	**68**	**91**	**4**	**2**	**413**	**4,469**	**5,050**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C12. Estimated Consumption of Ethanol (E85) by Vehicles, by State and User Group, 2008

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	9	199	0	7	0	0	900	1,115
Alaska	0	0	0	0	0	0	0	0
Arizona	143	133	85	15	0	43	2,439	2,858
Arkansas	10	0	16	0	0	0	214	240
California	692	877	21	2	0	7	4,585	6,184
Colorado	153	65	21	20	0	14	1,408	1,681
Connecticut	4	143	0	0	0	0	158	305
Delaware	1	115	0	0	0	1	131	248
District of Columbia	140	34	4	0	0	0	565	743
Florida	447	235	65	0	0	0	2,918	3,665
Georgia	76	147	45	1	0	37	1,207	1,513
Hawaii	8	0	0	0	0	0	23	31
Idaho	88	51	17	0	0	0	370	526
Illinois	554	246	99	59	0	16	1,600	2,574
Indiana	102	51	61	0	1	0	674	889
Iowa	29	160	45	0	0	0	457	691
Kansas	24	11	46	0	0	0	337	418
Kentucky	32	89	14	2	0	4	791	932
Louisiana	48	194	23	7	0	0	499	771
Maine	6	0	0	0	0	0	11	17
Maryland	91	137	0	0	0	61	1,325	1,614
Massachusetts	33	3	0	6	0	1	78	121
Michigan	102	317	36	0	0	0	1,404	1,859
Minnesota	490	360	25	0	0	15	1,074	1,964
Mississippi	24	54	10	3	0	0	346	437
Missouri	119	246	34	16	0	0	814	1,229
Montana	52	14	0	3	0	0	525	594
Nebraska	13	113	16	6	0	0	272	420
Nevada	159	10	0	10	0	1	459	639

New Hampshire	0	0	0	0	0	0	4	4
New Jersey	45	9	0	0	0	0	71	125
New Mexico	120	162	12	6	0	0	1,465	1,765
New York	145	160	34	3	0	0	1,024	1,366
North Carolina	124	496	33	7	0	0	3,282	3,942
North Dakota	73	48	2	0	0	0	667	790
Ohio	147	287	24	0	0	0	1,129	1,587
Oklahoma	10	90	18	1	5	0	337	461
Oregon	25	126	0	9	0	0	661	821
Pennsylvania	76	50	70	0	0	0	919	1,115
Rhode Island	1	8	0	1	0	0	14	24
South Carolina	313	386	59	4	0	0	1,520	2,282
South Dakota	44	155	25	0	0	0	957	1,181
Tennessee	128	372	0	6	0	0	1,338	1,844
Texas	231	221	107	52	0	7	3,217	3,835
Utah	42	88	0	0	0	0	483	613
Vermont	2	0	0	0	0	0	6	8
Virginia	54	102	64	0	0	0	2,184	2,404
Washington	196	49	4	0	0	15	1,278	1,542
West Virginia	14	0	5	0	0	0	203	222
Wisconsin	49	229	0	0	0	0	910	1,188
Wyoming	44	3	0	0	0	0	272	319
State Unknown	747	0	0	0	0	0	1	748
Total	**6,279**	**7,045**	**1,140**	**246**	**6**	**222**	**47,526**	**62,464**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C13. Estimated Consumption of Hydrogen by Vehicles, by State and User Group, 2008

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	0	0	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0	0	0
California	0	0	0	0	0	0	0	0
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0

New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	0	0	6	0	0	11	100	117
Total	**0**	**0**	**6**	**0**	**0**	**11**	**100**	**117**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U. S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C14. Estimated Consumption of Liquefied Natural Gas (LNG) by Vehicles, by State and User Group, 2008

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	0	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0	0
Arizona	29	0	0	0	0	812	7,796	8,637
Arkansas	0	0	0	0	0	0	0	0
California	0	0	39	203	0	4,578	6,976	11,796
Colorado	0	0	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0	0	0
Delaware	0	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0	0	0
Idaho	31	0	0	0	0	0	19	50
Illinois	0	0	0	0	0	0	0	0
Indiana	0	0	0	0	0	0	0	0
Iowa	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	0	0	0	12	0	28	40
Mississippi	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	0	0	0
Montana	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0

New Hampshire	0	0	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0	0	0
Oregon	0	0	1	0	0	0	25	26
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Texas	0	0	0	1	0	2,965	1,971	4,937
Utah	0	0	0	0	0	0	0	0
Vermont	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
Washington	0	0	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0	0	0
State Unknown	0	0	0	0	0	0	68	68
Total	**60**	**0**	**40**	**204**	**12**	**8,355**	**16,883**	**25,554**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.
Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool (FAST).

Table C15. Estimated Consumption of Liquefied Petroleum Gas (LPG) by Vehicles, by State and User Group, 2008

(Thousand Gasoline-Equivalent Gallons)

State	Federal Agencies	State Agencies	Electric Fuel Providers	Natural Gas Fuel Providers	Propane Fuel Providers	Transit Agencies	Other Private & Municipal Governments[a]	Total
Alabama	0	0	30	0	541	0	2,000	2,571
Alaska	0	0	0	0	45	0	304	349
Arizona	0	40	37	0	604	14	3,638	4,333
Arkansas	0	10	3	0	429	0	1,969	2,411
California	2	875	55	1	1,098	186	8,903	11,120
Colorado	5	4	1	0	447	42	4,330	4,829
Connecticut	0	0	0	0	107	0	483	590
Delaware	0	0	0	0	8	0	42	50
District of Columbia	0	0	0	0	0	0	68	68
Florida	15	29	0	0	913	0	4,520	5,477
Georgia	0	43	8	0	621	0	5,692	6,364
Hawaii	0	0	6	0	40	0	915	961
Idaho	1	4	0	0	122	0	842	969
Illinois	0	0	0	9	567	0	2,773	3,349
Indiana	0	0	0	28	535	0	2,912	3,475
Iowa	0	0	0	0	181	0	1,113	1,294
Kansas	0	0	0	6	260	0	1,331	1,597
Kentucky	0	0	0	0	390	0	1,643	2,033
Louisiana	6	0	1	0	118	0	1,004	1,129
Maine	0	1	0	0	37	204	980	1,222
Maryland	0	0	2	0	112	0	469	583
Massachusetts	0	4	0	0	79	42	433	558
Michigan	0	0	0	18	767	0	3,636	4,421
Minnesota	0	0	4	21	364	1	3,700	4,090
Mississippi	0	490	0	0	611	0	3,509	4,610
Missouri	0	16	4	0	900	0	4,701	5,621
Montana	0	0	0	0	115	0	583	698
Nebraska	0	0	0	0	57	0	292	349
Nevada	0	82	0	0	95	0	4,122	4,299

New Hampshire	0	0	0	0	104	0	366	470
New Jersey	0	13	0	1	234	0	2,002	2,250
New Mexico	0	34	4	0	259	0	981	1,278
New York	0	4	0	0	326	0	1,839	2,169
North Carolina	0	34	2	0	1,033	0	5,070	6,139
North Dakota	0	0	0	0	23	0	134	157
Ohio	0	2	0	0	754	0	4,000	4,756
Oklahoma	0	0	0	0	354	0	1,296	1,650
Oregon	0	0	0	0	74	309	1,077	1,460
Pennsylvania	0	0	0	0	366	0	1,885	2,251
Rhode Island	0	0	0	0	17	0	83	100
South Carolina	0	41	8	0	341	0	1,412	1,802
South Dakota	0	0	0	0	52	0	131	183
Tennessee	0	0	0	11	186	144	948	1,289
Texas	12	1,186	391	72	1,215	281	28,733	31,890
Utah	353	0	0	0	80	0	638	1071
Vermont	0	0	0	0	74	0	320	394
Virginia	0	0	7	0	521	0	2,667	3,195
Washington	0	0	0	0	283	0	1,425	1,708
West Virginia	0	0	0	0	95	0	431	526
Wisconsin	0	7	0	3	519	0	2,584	3,113
Wyoming	0	0	0	0	79	0	300	379
State Unknown	2	0	0	0	0	0	132	134
Total	**396**	**2,919**	**563**	**170**	**17,152**	**1,223**	**125,361**	**147,784**

[a]Includes Private business entities except Fuel Providers, which are shown separately in this table. Also includes municipal (local) government agencies except Transit Agencies, which are shown separately in this table.

Note: Totals may not equal sum of components due to independent rounding.

Source: U.S. Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels and the DOE/GSA Federal Automotive Statistical Tool
(FAST).

Figure 1. Estimated Number of Alternative Fueled Vehicles in Use in the U.S., 2006 – 2008

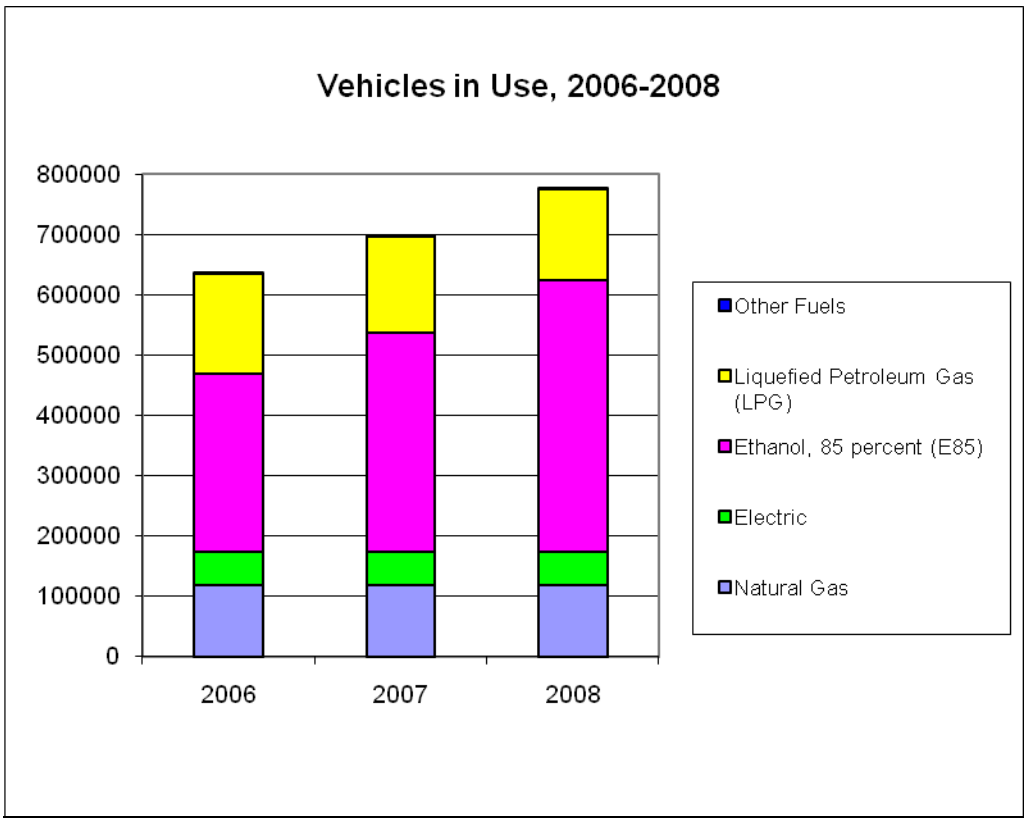


Figure 2. Alternative Fueled and Hybrid Vehicles Made Available by Vehicle Type, 2008

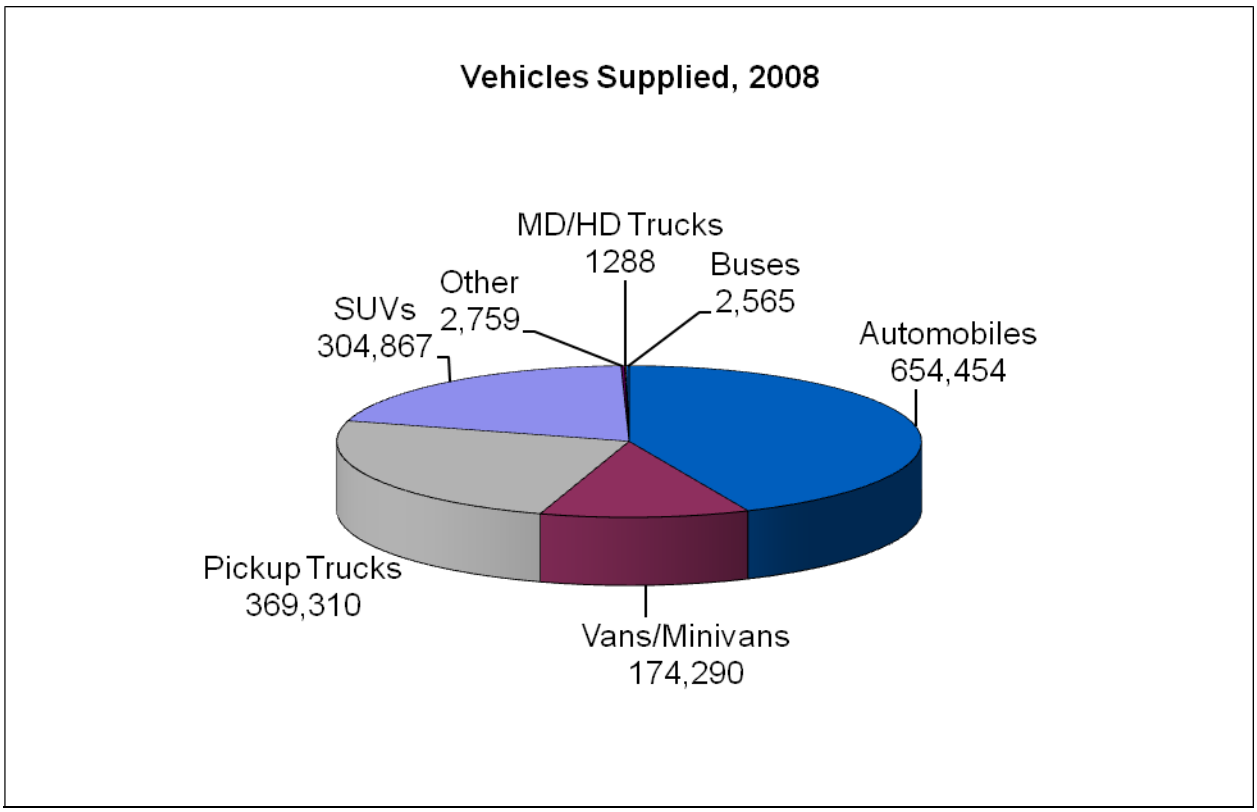
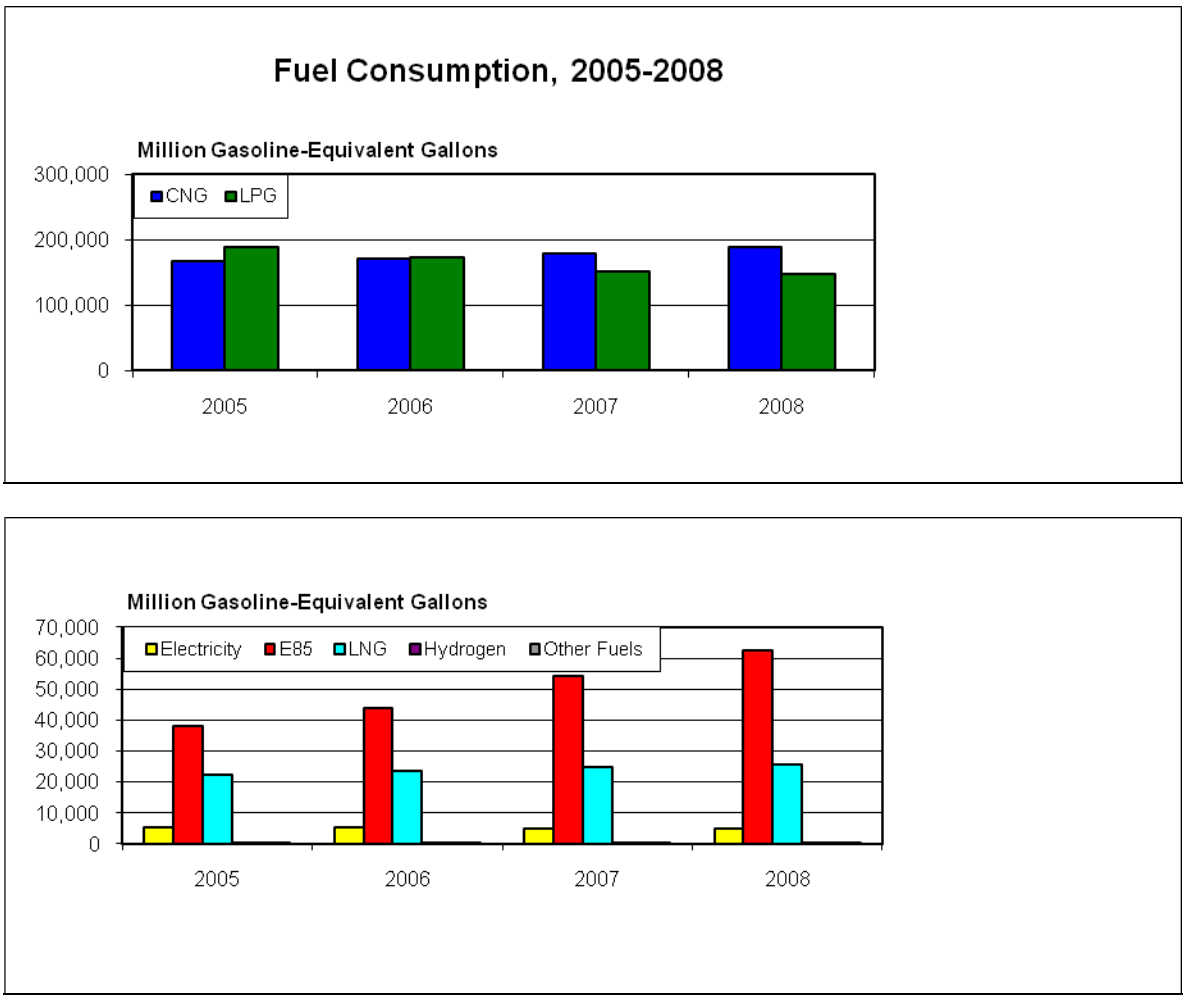


Figure 3. Estimated Consumption of Alternative Fuels in the U.S by Fuel Types, 2005 – 2008



Revision to Estimates of Alternative Fuel Vehicles in Use and Alternative Transportation Fuel Consumption

Summary

The Energy Information Administration (EIA) has revised the method used to estimate both the current number of alternative fueled vehicles (AFVs) in use and alternate transportation fuel (ATF) consumption. It has also revised the data table format used to present this information. The method of estimating AFVs in use was revised for 4 reasons:

- To eliminate confusion between information previously provided about total AFVs in use (estimated) and about the portion of AFVs reported in use by fleets on Form EIA-886.
- To provide more detailed data and to revise historical data, including using more current data.
- To make the estimation methodology as consistent as possible with data collected on Form EIA-886.
- To automate the process and make it easier to customize the value of various estimation parameters to a particular fleet, fuel type, etc.

The discussion of these items will proceed as follows. First is an explanation of the changes to the data resulting from the above activities. Following will be a discussion of the revised methodology. The report will close with a description of the new data tables-why the format changed and what new data is contained in them. While the automation of the estimation process was a significant undertaking, it had very little impact on the actual estimates themselves and therefore will not be discussed.

Changes in Estimates of AFVs in Use

The changes in the number of AFVs reported in use compared with the estimates of AFVs in use previously published are, at the total level for each fuel, largely the result of data revisions and not methodological changes. Vehicle in use data were revised for the following reasons:

- Previously, data published for 2003 were preliminary and data for 2004 were "projected." The revised estimates of AFVs in use now include final 2003 survey data. EIA no longer makes year-ahead projections of AFVs in use.
- Data by vehicle type and weight category were revised due to apparent respondent misclassification of vehicles. One example of misclassification is that several Form EIA-886 respondents originally reported many pick-up trucks as "medium-duty" pickups, when in fact they were actually light duty. Another is that respondents sometimes reported pick-up trucks as "other trucks." These revisions impacted estimates of AFVs in use by weight category and/or vehicle type, but very little for the total number of AFVs in use by fuel. An exception is methanol, which was determined to be no longer in use as a vehicle fuel.
- The total number of propane (LPG) vehicles estimated in use was reduced as a result of information from the 2002 Census Vehicle Inventory Utilization Survey (VIUS). VIUS surveys trucks, pick-ups, and vans in private fleets. Historically, Form EIA-886 has not surveyed private fleets other than alternate fuel providers, and most propane (LPG) vehicles are trucks or pick-ups in private fleets. The number of propane (LPG) vehicles that were reported in use between the 1997 and 2002 VIUS surveys dropped considerably.
- The state distribution of AFVs has changed considerably in some cases.

The "benchmarking" revisions (converting to final survey data and using the VIUS survey) clearly had a major impact on 2004 and 2005 estimates as well. The misreporting problems tend to be similar from one year to the next, so 2004 estimates tend to be revised in a manner similar to 2003. However, revisions due to changing the state distribution of AFVs were not as consistent across the years 2003-2005.

Revisions to the Method of Estimating AFVs in Use and Alternate Transportation Fuel Consumption - Background

When EIA's alternate fuels work began in 1993, the first effort was to develop estimates of the number, type, and geographic distribution of AFVs in use as required in Section 503 of the Energy Policy Act of 1992 (EPACT92). At that time, EIA developed from outside sources estimates of the number of AFVs actually in use during 1992, using external information and a model it developed. This model described AFVs by various physical characteristics (e.g., size), fuel, and fleet ownership group (e.g., state government, rental car) and was also used to estimate alternate transportation fuel (ATF) consumption by AFVs. As the years passed, the effort to develop an externally derived estimate of AFVs in use decreased and was replaced by making assumptions about growth in AFV use based upon various energy/economic factors and trends in AFV use reported in trade literature and to the DOE Clean Cities Program.

In 1995, EIA fielded its first survey of companies that supply AFVs[1], and in 1998 EIA first surveyed selected segments of U.S. fleets for AFVs in use, as described previously. Eventually, it became clear that EIA's Form EIA-886 data provided the best available knowledge base of AFV information and should be incorporated in a formal way into the estimation process, replacing its reliance upon external estimates from the mid-1990s and the subsequent series of growth factors. This suggested integrating the estimation method and the survey tool. This was accomplished by automating the calculation of AFV estimates using EIA survey data (and its structure) as the baseline and applying the existing estimation modeling assumptions in an automated fashion. Doing so not only greatly decreased manual manipulations and calculations, but it also made it much easier to modify model parameter values to reflect specific information known about various user groups, fuel types, etc. It also greatly facilitated comparing estimates of fuel consumption with actual ATF consumption reported by AFV users on Form EIA-886.

Revised Methodology Summary

EIA surveys all producers of AFVs but collects survey data only on AFVs used by Federal and State governments, alternate fuel providers, and transit companies. Therefore, the fleets for which EIA does not collect data on AFVs in use are local government fleets and private company fleets (except for alternate fuel providers). The revised model "imputes" estimates of vehicles in use for these fleets (combined) based on reported AFV supplier and user data from Form EIA-886.

The revised method for estimating total AFVs in use is designed to use only the prior year's estimates of AFVs in use, along with current year survey data, to develop estimates for the current year. The only exception to this is that developing estimates of vehicle retirements requires knowing the vintage of all AFVs in use the prior year. The revised procedure therefore requires EIA to establish a base year manually of AFVs in use which the revised model could use. Because EIA has only published preliminary 2003 and "projected" 2004 data until now and to establish a 3-year historical revised set of data, EIA chose 2003 as the base year. Thus, EIA has used the new method to revise estimates of AFVs in use and ATF consumption for 2003 and 2004. Estimates of AFVs in use and ATF consumption for 2005, which are being published for the first time, were also developed using the revised method.

Estimating AFVs in Use for 2003

To understand the method used to revise 2003 AFV and fuel consumption estimates, it is necessary to understand the gap between the scope of firms that EIA surveys and the whole universe of AFV users.

As mentioned previously, EIA surveys both the suppliers and users of alternative fueled vehicles (AFVs), with the objective of being able to provide information on the number, type, and geographic distribution of AFVs in use as well as alternate transportation fuel (ATF) consumption by fuel regionally. It is relatively easy to survey AFV suppliers (original equipment manufacturers and converters), which number between 50 and 100. Fleets that use AFVs, however, could easily number in the tens of thousands nationwide.[2]

Therefore, EIA collects data from only the fleet groups described previously-Federal and State governments, alternate fuel providers, and transit companies--to determine AFV usage characteristics and fuel consumption, as described below. The gap between the number of AFVs covered by the EIA AFV supplier and user surveys (after adjusting for retirements) is those that are in use by local governments and private fleets. The number of these AFVs are being imputed" in the sense that: 1) the number is not known precisely, because while the supply of AFVs is well known, retirements must be estimated; and 2) they are being assigned a geographic location (generally) based upon the distribution of AFVs in use for which EIA collects survey data. The reason the geographic location of these vehicles must be assigned by EIA is that vehicle suppliers do not generally know the State into which their vehicles are sold.[3]

It is important to note that EIA has always estimated AFVs in use by municipal governments and private fleets. The original EIA model estimated state and municipal government vehicles combined and private fleets separately. This model had to be modified when information became available from Form EIA-886 on use of AFVs in state government fleets. As mentioned previously, the revised model now uses the same categories as are used for collecting vehicle in use data on Form EIA-886.

Following is the general method used to estimate AFVs in use.

- *Estimate the U.S. total number of AFVs in use by summing the vehicles made available (as reported by suppliers) through the current year (2003) and subtracting an annual estimate of vehicles retired.*[4] (Exceptions: propane (LPG) and ethanol vehicles. See items 2. and 3. under "Details and Exceptions.") This calculation is done for each level of detail, i.e. fuel type, vehicle type, and vehicle configuration.[5]

- *Determine the number of AFVs in use for surveyed user groups for the current year.* The EIA-886 user survey collects AFVs in use by State government, alternate fuel provider, and transit fleets. The Federal Automotive Statistical Tool (FAST) provides information on Federal AFVs in use.

- *Subtract AFVs in use calculated in Step 2 from the total AFVs estimated in use for the given data year (from Step 1).* The result is the number of AFVs estimated to be in use in market sectors other than those surveyed on the EIA-886 survey. These sectors are local governments (except for transit operations) and private businesses (except for alternate fuel providers), and are referred to as the "Other Local Government and Private" sector.

- *Allocate AFVs in use in the "Other Local Government and Private" sector to States.* The calculation is performed by developing the percentage of AFVs in use in each State, by fuel and vehicle type, for all user types canvassed on the EIA-886 and the FAST survey. This percentage is applied to the total "Other Local Government and Private" AFV estimate to allocate the unsurveyed vehicles according to location.

The result is an estimate for 2003 of all AFVs in use by location (State) at the same level of detail for which data is collected on the EIA-886 and FAST surveys.

Details and Exceptions

- *Survey data characteristics* - Because AFVs, except for E85 flexible-fueled vehicles, are operated almost exclusively in fleets, EIA surveys only fleets to determine AFVs in use. However, EIA currently covers only State governments, alternate fuel providers (electricity, natural gas, and propane), and transit companies on its EIA-886 survey of AFVs in use. Together with the Federal AFV data from the FAST system, EIA estimates that it collects information on about one-third of all AFVs in use; the remaining two-thirds are presumed to be in use by local governments and other private fleets. This percentage varies widely by fuel and vehicle type.

- *Calculating AFV supply* - In 1995, EIA began collecting data on alternative fueled vehicles made available (including conversions and original equipment manufacturing). For all alternate fuels except propane, this vehicle supply information forms the basis for the overwhelming majority of the available alternate fueled vehicles estimated to be still in use. A large number of propane (LPG) vehicles were built prior to 1995 and, thus, were not captured by the EIA-886 supplier survey. Because propane (LPG) AFVs are almost exclusively medium- and heavy-duty vehicles, which often have fleet life spans of over 20 years, a large number of pre-1995 propane (LPG) vehicles were believed to still be in use until recently.

  Therefore, EIA has a good estimate of the total population of non-propane (LPG) AFVs supplied that are likely still in use by simply summing all reported AFVs supplied and subtracting out estimated retirements. For propane (LPG) vehicles, EIA separately estimated an inventory of vehicles in use as of the end of 1997. To these estimates are added the number of propane (LPG) vehicles supplied according to the EIA-886 supplier survey since 1998. The propane (LPG) vehicle retirement schedule is then applied to this estimate to determine the final estimate of propane (LPG) vehicles in use. The reason for using 1998 instead of 2003 as the base year is that for propane (LPG) vehicles, some reliable information was available from the 1997 Census Vehicle Inventory and Use Survey, which covers private trucks.[6] The vast majority of propane-fueled vehicles are private fleet trucks.

- *Flexi-fueled vehicles*-- Flexi-fueled vehicles in the United States can operate on any ethanol/ gasoline blend containing no more than 85% ethanol and are designated at "E85" vehicles.[7] The procedure for estimating the number of E85 vehicles in use is slightly different from that used to estimate the number of AFVs operating on other alternate fuels. The number of E85 vehicles estimated to be in use by fleets is calculated as 5 percent of the total number of E85 vehicles supplied (less retirements). The remaining E85 vehicles are considered to be sold to the public generally where most of them are assumed to be used as conventional gasoline vehicles.

- *Level of detail, AFV suppliers*-- estimates are made according to the following characteristics:[8] a. Fuel type. Fuel types are: propane (LPG), compressed natural gas (CNG), liquefied natural gas (LNG), ethanol (E85), and hydrogen. Formerly, EIA estimated the number of methanol-fueled vehicles, but methanol is not currently used as an on-road vehicle fuel. b. Vehicle type. A vehicle's type is a function of both its "curb weight" and its body style. Examples of distinct body types are: subcompact automobile, light-duty pick-up truck, medium-duty pick-up truck, medium-duty truck, and large transit bus. c. Engine configuration. An engine is either "dedicated," meaning that it operates on a single fuel, or non-dedicated. A non-dedicated engine may operate on more than one fuel at a single time or operate on more than one fuel, but only at separate times. A flexi-fueled vehicle is a type of non-dedicated engine. d. User group, i.e., fleet classification of the vehicle owner/operator. Examples are State governments, electricity providers.

- *Level of detail, AFVs in use*, in addition to the level of detail used to classify AFVs supplied, AFVs in use are classified according to State in which the vehicle is located.

Estimating 2003 Alternate Transportation Fuel Consumption

Alternate fuel consumption was calculated using the following five basic inputs:

1. Estimated Alternative-Fueled Vehicles In Use: Calculated as previously described.
2. Estimated Vehicle Miles Traveled (VMT): Average annual vehicle miles traveled for AFVs at the "in use" level of detail (i.e., fuel/vehicle type/engine configuration type/State). However, in most cases VMT was not varied at this level of detail but only according to user group and vehicle type.
3. Estimated Vehicle fuel efficiency: Represented as Miles-per-Gallon (MPG) on Conventional Fuel (i.e., gasoline or diesel) for each in use level of detail.
4. For non-dedicated vehicles, EIA estimated the percentage of consumption that is alternative fuel, based upon both estimates developed in 1992 at the outset of EIA's AFV information program and limited information recently obtained on fuel use from the EIA-886 user survey.
5. Fuel energy content: Represented as Thousands of Btu (kBtu) per Native Unit of Fuel: By neat (i.e., pure) replacement fuel. The native units used are gallons (M85, M100, E85, E95, LPG, and LNG), therms (CNG), and kWh (electricity).

The following is a description of the six-step approach to estimate total annual fuel consumption.

1. Alternative Fueled Vehicles Categorization. The level of detail for AFVs "in use" is as described above.
2. Estimation of Vehicles Miles Traveled (VMT). The average annual VMT values known from conventional fleets were used as the starting point for the VMT assigned to each AFV in use level of detail. The conventional fleet VMT estimates are known only according to vehicle type.

   In most cases, VMT was not varied by State, but only according to user type and vehicle type. For example, Federal and State governments may use AFVs in quite different ways due to fuel availability or policies for AFV use.

   In some instances, the annual VMT values of conventional vehicles were revised downward to reflect the less intensive use of AFVs when compared to conventional vehicles. Average VMT is lower for AFVs than for conventional vehicles for some types due to differences in vehicle classification and issues of choice. "Choice" factors that reduce AFV utilization relative to conventional vehicles include the following:
   - More frequent refueling because of lower heat content of alternative fuels
   - Range restrictions because of limited fuel availability
   - Higher maintenance needs and increased incidence of mechanical failures
   - Operator perceptions (when choice is available, fleet and vehicle operators may drive conventional vehicles more often than AFVs because of their perceptions of safety, cost, perceptions are correct).

   In other instances, the annual VMT values of conventional vehicles were adjusted to reflect information about AFV use that was collected on the EIA-886 survey or from other outside sources.

3. Estimation of Fuel Efficiency
   The efficiencies in miles per gallon of gasoline were determined for all vehicle categories. The annual MPG values known from conventional fleets were used as the starting point for the MPG assigned to each AFV "in use" level of detail ((i.e., fuel/vehicle type/engine configuration type/State).[9] The conventional fleet MPG estimates are known only according to vehicle type, so they are occasionally varied. As more data about the efficiency of alternative fuel vehicles have become available, these have been incorporated into the estimates. For instance, the EPA's Fuel Economy Guide has begun including some types of AFVs, and this information is sometimes used to adjust conventional MPG rates.

4. Vehicle Miles Traveled and Fuel Consumption Adjustments for Dedicated and Non-Dedicated Vehicles

   Dedicated vehicles were assumed to be fueled exclusively by alternate fuels; therefore, no adjustment was necessary. However, non-dedicated AFVs may consume both alternate and traditional fuels. Flexible-fuel vehicles using ethanol, for example, do not necessarily consume 85-percent ethanol and 15-percent gasoline at all times. To obtain the net amount of alternative fuel used by vehicles with non-dedicated engines, their VMT values were multiplied by the percentage of mileage each vehicle type is thought to use the alternate fuel.

5. Estimating Fuel Consumption
   The net adjusted annual VMT (from step 4) was divided by miles per gallon to determine alternate transportation fuel consumption in gasoline-equivalent-gallons.

6. Conversion to Alternate Transportation Fuel Consumption in Native Units
   Fuel consumption in gasoline-equivalent gallons was converted to native units (gallons for propane (LPG) LNG, and E85, therms for CNG, and KWH for electricity.) A conversion factor for each fuel was computed by dividing the higher heating value (HHV) of gasoline by the higher heating value of the alternative fuel. For several AFV types, the conversion factors were adjusted because the effective total fuel cycle of ATF consumption per mile of travel is higher than commonly thought. Consumption of ATFs is almost always estimated by assuming that Btu-equivalent amounts of ATF and traditional fuel produce the same VMT. This assumption is not strictly accurate because of venting of fuel vapor during refueling and maintenance, leakage of gaseous fuels from fuel lines and storage cylinders, engine efficiency differences, and vehicle weight differences. Although natural gas utilities, transit bus facilities, fleet owners, and related industry members are not generally able to isolate and quantify these factors, the net effect is lower miles per Btu for most AFVs than for conventional vehicles. The adjusted conversion factors were then multiplied by the alternative fuel consumption value (from step 5) to determine alternative fuel consumption in terms of native units.

Estimating 2004 and 2005 Alternative Fueled Vehicles In Use

Once 2003 estimates of AFVs were developed, these were updated with 2004 EIA-886 data for both total vehicles supplied during 2004 and vehicles in use for the surveyed user groups, as well as an estimate of vehicles retired during 2004. Creating 2005 estimates of AFVs in use followed a similar process as used for 2004, except that for 2005 estimates, issues regarding the classification of vehicles (see below) were largely resolved by recontacting form EIA-886 respondents.

Revised Data Tables-Structure and Content

The new data tables for estimates of AFVs in use and alternate transportation fuel consumption were designed to achieve two objectives:

1. Provide additional detail about AFVs in use; and
2. Increase the understanding of the table contents

Additional Detailed Data provided includes:

1. AFVs in use by fuel type and detailed vehicle type (e.g., compact automobile) (Table V6)
2. AFVs in use by fuel type, major vehicle type, and engine configuration (i.e., dedicated or nondedicated) (Table V7)
3. A summary table by user group of AFVs in use (Table V8)
4. AFVs in use by fuel type and user group (Table V9)
5. For each fuel type, AFVs in use by User Group and State (Tables V10-V15)

Tables showing many of the above categorizations were published previously, but only with form EIA-886 data (see following section). Note that the current data tables no longer show estimates at the Census 4-region level.

Regarding alternate transportation fuel consumption data, information was previously published only at the U.S. total level by fuel type, as well as by weight category and Census region. Now, consumption data is available for every categorization for which AFVs in use is shown.

Increasing the Understanding of Alternative Fuels Data Tables

Since the inception of EIA's alternate fuels survey in 1995, EIA has presented separate data tables for: a. estimates of the total population of AFVs and total ATF consumption; and b. data collected about AFVs in use from Form EIA-886. This was done to ensure that users did not confuse reported EIA-886 survey data, which is gathered from only a portion of the total U.S. fleet population (excluding privately owned vehicles), with information originally developed apart from the survey data via a model designed to estimate the number of AFVs in use by all fleets.[10]

However, this division of data presentation appeared to create ambiguities as to the content of each set. Furthermore, as time passed, the process of estimating the use of AFVs in all U.S. fleets changed because instead of relying on historical externally derived estimates of AFVs in use in a base year, plus other assumptions, EIA by 2005 had 10 years of information on all AFVs supplied and 7 years of information on AFVs in use by Federal[11] and State governments, alternate fuel providers,[12] and transit companies. As a result, EIA over the years had modified the data used to model total AFVs in use by relying increasingly on form EIA-886 data, thus further blurring the distinction between
published "estimates" of AFVs and published "data." Making the situation even more complicated was the fact that the original model used to estimate total AFVs in use used a rather different set of fleet and vehicle categories from those reported on Form EIA-886.

As a result, EIA decided to revise its data presentation when it revised its methodology and automated the process. Data tables now reflect a totally integrated picture of AFVs in use, beginning with the total U.S. picture and then decomposing the total into various parts. Footnotes on each table describe which parts of the table are derived from the survey data and which are estimated.

[1]Companies that supply AFVs include both those that are original equipment manufacturers and those that convert vehicles that operate on conventional fuels to operate on an alternate fuel.
[2] In 1994, EIA estimated that in Atlanta, GA alone there were 4,000 fleets having 10 or more vehicles.
[3] Frequently, suppliers sell vehicles to leasing companies, who in turn send them to dealers or end users.
[4] Estimates of vehicles retired are developed for each year of AFVs that have been reported supplied on Form EIA-886.
[5] For most vehicle types, AFV retirements are estimated according to the same schedule as their non-AFV counterparts. For example, a CNG automobile is assumed to have the same life as a gasoline-powered auto. For a limited number of vehicle types, sufficient alternative information was available to permit EIA to override the conventional-equivalent vehicle retirement schedule. Information on default retirement rates was obtained from prior editions of the Transportation Energy Data Book, Tables 3.8, 3.9, and 3.10, published by the Oak Ridge National Laboratory. See http://cta.ornl.gov/data/index.shmtl.
[6] The VIUS survey defines a "truck" as including vans, pick-ups, sport utility vehicles (SUVs), and larger trucks. However, VIUS separately estimates "light-duty" trucks (vans, pick-ups, and SUVs) and other medium- and heavy-duty trucks. EIA also used the results of the 2002 VIUS survey to further adjust the "inventory" of pre-1995 propane (LPG) trucks in use, resulting in a lower number.
[7] In the 1990's, a few heavy-duty E95 vehicles were built that were dedicated ethanol vehicles. None have been built since, and the number of these believed to still exist is so few that EIA no longer tracks them.
[8] A complete listing of all characteristic descriptions is provided at the end of this document.
[9] Baseline information on MPG was obtained from prior editions of the Transportation Energy Data Book, published by the Oak Ridge National Laboratory. See http://cta.ornl.gov/data/index.shtml.
[10] Form EIA-886, "Annual Survey of Alternative Fueled Vehicle Suppliers and Users".
[11] Data on Federal AFVs in use is obtained from the Federal Automotive Statistical Tool (FAST), operated jointly by the General Services Administration and the Department of Energy.
[12] Alternate fuel providers, as defined by the Energy Policy Act of 1992, are electricity providers, natural gas providers, and propane (LPG) providers.